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I.

Biographical *Memoir of* Samuel Johnson, D. D. *First President of King's (now Columbia) College, New-York.**

(With an Engraving, by Leney.)

Short and scanty as are the earlier annals of the literary history of our country, they are yet sufficient amply to refute, by numerous examples, those charges of intellectual degeneracy and incapacity for mental labour, which have been so wantonly made against our national character. Among those of our ancestors who contributed most largely towards forming and rearing up the intellectual character of the nation, neglected and almost forgotten as their labours now are, may be

* In presenting to the public the life of President Johnson, the Editors think proper to inform their readers, that it is done in pursuance of a plan they had early formed, of embodying in the Register a history of the principal colleges of the United States, with the lives of their most distinguished presidents and professors. Details of this nature, inasmuch as they will necessarily embrace a great variety of matters intimately connected with the literary history of our country, and that too, at a period which, though much neglected, is on many accounts particularly deserving attention, cannot fail to prove highly interesting. In aid of this undertaking, the Editors solicit communications. Ed.

found many who, amidst all the difficulties of a new and half-peopled country, without the support of patronage, the aid of literary society, or the excitement of applause or opposition, discovered such ardour and ability in the acquisition of knowledge and the investigation of truth, as, under happier circumstances, would have enabled them to aid their cotemporaries, Boerhaave and Linnæus, in extending the dominion of science over the material world; or with Addison, Berkeley, and Butler, to apply the highest powers of intellect, and the richest treasures of human knowledge to their noblest use, the inforcing of moral obligation, and the illustration of divine truth.

But the state of society in which they were placed, forbad them from looking abroad to the great republic of the civilized world as their proper sphere of action; and learning, of which Oxford would have been proud, and talents, of which Europe would have enrolled the possessors high on her list of worthies, were employed in the useful, but humble duties of parish priests, and instructors in provincial colleges; and it is now only from hasty and occasional publications, from hoarded manuscripts, or scanty tradition, that we are enabled to estimate the powers and the acquirements of the Coldens, the Cutlers, and the Edwards of the last century. Among these men, thus ardent and successful in the pursuit of knowledge for its own sake alone, the subject of the present biographical sketch holds a distinguished place.

Samuel Johnson was born at Guilford, Connecticut, October 14th, 1696, and was descended from a respectable family of the earliest settlers of Connecticut. After obtaining such meagre rudiments of the languages as the classical schools of New-England then afforded, he was sent to the college of Connecticut, then first established at Saybrook. Learning was at that time at its lowest ebb in New-England. The first generation of learned puritans had died off, and their immediate successors, educated among a people too intent on

their immediate necessities to attend much to the cultivation of general learning, and retaining little of the profound biblical and classic lore of their fathers, were encumbered with all that was useless and pedantic in their course of study. A little Latin, and less Greek, together with the lower and elementary branches of mathematics, comprised all that was valuable in their collegiate course. As to every thing else, their academic course was worse than useless. The logic and philosophy of Aristotle, in the worst form into which they had been tortured by the Dutch and German compilers of those ponderous scholastic systems of universal knowledge, which now slumber undisturbed in their rusty vellum coats on the shelves of our public libraries, were the studies of the highest classes, and indeed all that was at that time considered as worthy the name of learning in the colony.

Just as Mr. Johnson had groped his way through this *palpable obscure*, and had received the usual academic honours, chance threw in his way Lord Bacon's essay on the advancement of learning (perhaps the only copy at that time on this side the Atlantic) the study of which operated in his mind the same change which had already taken place for more than forty years among the learned of Europe, but of which no rumour had yet reached the literati of New-England.

His mind, naturally patient of investigation, and eager for truth, received with avidity the flood of new ideas thus poured in upon it, and he seemed to himself, to use his own expression, "like a person suddenly emerging out of the glimmer of twilight into the full sunshine of open day."

Shortly after this memorable epoch in his life, a considerable addition was made to the college library, among which were the writings of the greatest philosophers, divines, and polite scholars of the age; and the *then* modern works of Newton, Halley, and Woodward; Barrow, South, Tillotson, and Sherlock; Bentley, Addison, and Steele, were seen and

read for the first time in the colony of Connecticut. The regularly bred scholar of the present day, surrounded and sated with literary luxury till he turns cloyed with excellence to stimulate his jaded appetite with novelty,

——— ———mala copia quando
Ægrum solicitat stomachum,

can have but a faint idea of the avidity and intense application with which the works of these great masters of reason and just expression were perused, and (to use the happy phrase of Gibbon) *meditated* again and again by Mr. Johnson and a few of the associates of his studies. The discoveries of Newton particularly excited his attention, and, not content with a general and superficial notion of his doctrines, he determined to acquire such a knowledge of mathematics as would enable him thoroughly to comprehend their grounds and reasons, and to enter into the very penetralia of that high-priest of nature. In this design, his usual resolute application made him completely successful. During all this time, he never intermitted his classical studies, or that of the Hebrew, of which he had early acquired the rudiments, and which in after-life became the employment of his leisure, and the solace of his age. Thus richly stored with general science, he was admirably calculated for the station to which he was appointed in 1716, of tutor in the college, then removed to New-Haven, and placed under the direction of the learned Dr. Cutler, as rector or president. Here, for four years, in conjunction with the learned rector, he was actively employed in dissipating the intellectual darkness which had overspread the land, and in directing the observation of their pupils to those lights of science which had just dawned above their horizon. They were particularly successful in introducing the study of mathematics and the Newtonian philosophy, and, strange as such a necessity may seem, in overthrowing the

belief of the Ptolemaic system of the world, and establishing the doctrines of Copernicus. Mr. Johnson had always intended the christian ministry as his ultimate profession, and had kept this in view in all his studies. To this he was set apart, according to the forms of the congregational church, in 1720, and settled at West-Haven, where he applied himself to the duties and studies of his profession with exemplary diligence and zeal. He had been educated according to the strictest forms and most rigid orthodoxy of the independent calvanistic church, at that time the only sect known or tolerated in the colony. But in the course of a long and laborious investigation of most of the points in controversy between his own church and that of England, in which he was accompanied by President Cutler and a few other studious friends, he and his friends found reasons to change many of their opinions on those points, and finally to profess themselves members of the church of England.

A more minute history of this singular revolution in opinion, would be out of its place in the pages of a journal devoted chiefly to natural science, but the more curious reader will find it detailed at some length in *Chandler's Life of Dr. Johnson*, a little volume which, for pleasing though somewhat antiquated simplicity of style and high-church zeal and learning, is no unfit companion for Jones's celebrated Life of Bishop Horne, a divine who, in more than one circumstance of his character and studies, strongly resembled the subject of the present biography. This conviction, well or ill grounded, was sincere, for there is not the most distant reason for supposing that interest had any, even the remotest influence on their minds. Every thing was surrendered or put at hazard. Dr. Cutler resigned his presidency, Mr. Johnson his church, and embarked for England to receive episcopal ordination, where Mr. Johnson's natural curiosity and love of knowledge was gratified, by the attention, conversation,

and friendship of many of the most learned divines of the church of England, with most of whom he maintained a regular correspondence during the rest of his life. After receiving episcopal ordination, Mr. Johnson returned to America, as a missionary, under the patronage of the Venerable Society for the Propagation of the Gospel, and settled at Stratford, Connecticut, of the episcopal congregation of which place he was the regular minister; although, as he was for some time the only clergyman of that denomination in the colony, his labours were necessarily extended over a large tract of adjoining country. Here he married, and gradually overcoming, by the uniform mildness of his manners, the sectarian prejudices which had been excited against him, continued for many years engaged in the active duties of his calling, and in the pursuit of his favourite studies of divinity and the Hebrew language.

In the year 1729, a circumstance occurred, which forms a memorable epoch, not only in the life of Mr. Johnson, but in the literary history of this country; the arrival of the famous Dean, afterwards Bishop Berkeley, in America. A similarity of studies and principles, soon produced an intimate acquaintance between them, and during the two years and a half which that great and amiable* man resided in this country, a constant literary and social intercourse was kept up between them; and an uninterrupted correspondence was afterwards maintained, in a series of the most affectionate and confidential letters, until the death of the bishop, in the year 1752. Dr. Berkeley was then engaged in writing his *Alciphron*, or *the Minute Philosopher*, in which work, as is well known, the whole of the atheistical and deistical controversy against christianity is discussed with great ability and elegance, in the form of a dialogue. The following circumstance, related by

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* "To Berkeley every virtue under heaven."—Pope.

the late Dr. Smith, of Philadelphia, may perhaps serve to give greater interest to many parts of the work on this side of the Atlantic: Dr. Johnson, says he, "often visited the dean, while he was in Rhode-Island, who was then writing his Minute Philosopher; and I remember, some months since, when I was at his house in Connecticut, he took up the book, and reading some of the dean's rural descriptions, told me they were, many of them, exactly copied from those charming landscapes that presented themselves to his eye in that delightful island at the time he was writing."* Zealous as Mr. Johnson was for the doctrine and discipline of his own church, yet, so much did his regard for the general interests of religion and learning predominate over every sectarian feeling, that when Dr. Berkeley was about leaving America, he exerted all his influence with the dean, to impress upon his mind, the importance of Yale College, and the great advantages which might accrue to the colonies from liberal patronage of that institution, although it was exclusively under the control of those from whom he so widely differed in many points of religious opinion. The good seed thus sown, was not lost in the liberal mind of Dr. Berkeley, who, shortly after his return to England, assisted by a few friends whom he had interested in the encouragement of sound learning in this rising empire (as it already appeared to his prophetic eye) sent over a very choice collection of books for the college library, consisting of nearly a thousand volumes of well selected editions of the best authors, which still constitute not the least valuable part of the public library of that highly respectable institution. About the same time, he transmitted to Mr. Johnson, a deed, by which he conveyed to the college his farm in Rhode Island, directing the annual interests to be divided be-

* Dr. Smith's preface to the London edition of Dr. Johnson's Moral Philosophy.

tween three bachelors of arts, who, upon examination, should appear to be the best classical scholars of the year, for the purpose of supporting them in the prosecution of their studies, during a residence at college, till they received the degree of master of arts. This donation soon produced the happiest effects; and *the dean's bounty*, as it is still called, has contributed perhaps more than any other cause to keep up in Connecticut a race of sound classical scholars. As the episcopal church increased in Connecticut, the labours of Mr. Johnson, who was regarded as its head and champion, were still augmented; and in a theological controversy which soon followed, he defended her, in several tracts, published at intervals, with ability, candour, and good temper. In 1743, he received, through the recommendation of his friend Bishop (afterwards archbishop) Secker, the degree of doctor in divinity from the university of Oxford, a literary honour which, in that ancient university, has never been by any means lavishly bestowed, and cheap as academic honours have become elsewhere, is still regarded with high respect. Shortly after, for the purpose of counteracting some erroneous notions in morals, which had been propagated with much zeal throughout the country, Dr. Johnson drew up a brief system of morality, containing *the principles of ethics, in a chain of necessary consequences from certain facts*, which was published, in small quarto, in 1746. This was soon followed by a compendium of logic and metaphysics, which, together with the former treatise, falling into the hands of Dr. Franklin, about the time that he was engaged in founding a college in the city of Philadelphia, he considered them so well adapted for the purposes of collegiate instruction, that he reprinted them together, in an octavo volume, in 1752, for the use of the infant seminary. This produced a frequent correspondence between him and Dr. Johnson, whom he often consulted as to the plan of education to be adopted in the college of Philadelphia, and strongly

urged him to accept the presidency of it; but this offer Dr. Johnson was, from private reasons, obliged to decline.*

The volume which had thus met with the approbation of this able and unprejudiced critic, was shortly after again reprinted in London; and the *third* edition, corrected and enlarged by the author, and introduced with a preface by Dr. Smith (afterwards provost of the university of Pennsylvania) was published in a very handsome form, in 1754. As this is the most considerable performance of our author, it may be fairly taken as a specimen of the general powers of his mind. Although it has long since been superseded as a class book in moral philosophy by the more popular Paley, yet the extensive learning and uniform good sense shown in every page, cannot fail to impress us with a very high respect for its author.

He seems indeed to have had little of the excursive genius of Barrow or Jeremy Taylor, that *largus et exundans ingenii fons*, which makes the whole range of human knowledge and imagination contribute to the illustration or ornament of

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* Dr. Franklin, as an additional inducement for Dr. J's removal to Philadelphia, had proposed to get a new church erected for him. Upon Dr. Johnson's expressing some doubts as to the propriety of this measure, Franklin endeavoured to remove the difficulty by some arguments so strongly characteristic of the man, that, as the letter has never been published in any edition of his works, we cannot refrain from extracting a part: "Your tenderness of the church's peace is truly laudable; but, methinks, to build a new church in a growing place, is not properly *dividing*, but *multiplying*, and will really be a means of increasing the number of those who worship God in that way. Many who cannot now be accommodated in the church, go to other places, or stay at home; and if we had another church, many who go to other places, or stay at home, would go to church. I had for several years nailed against the wall of my house, a pigeon-box that would hold six pair, and though they bred as fast as my neighbours' pigeons, I never had more than six pair; the old and strong driving out the young and weak, and obliging them to seek new habitations. At length, I put up an additional box, with apartments for entertaining twelve pair more, and it was soon filled with inhabitants, by the overflowing of my first box, and of others in the neighbourhood. This I take to be a parallel case with the building a new church here."

the subject in hand: but he was perhaps better fitted for the state of society in which he was placed, by a very strong and clear understanding, a most ardent love of truth, and an invincible application and industry in its pursuit. His metaphysics are founded on those of Locke; but he seems often to incline to those conclusions which Berkeley had built upon that foundation. In the ethical part of his works, aware, that while the generality of moralists founded all moral obligation solely on the will of God, some, with Dr. Clarke, considered it as resulting from the truth and nature of things, while others, with Hutcheson, viewed it as arising purely from the suggestions of the *moral sense;* our author appears to consider these three different systems as coinciding in effect, and rather imperfect than erroneous. In brief, he appears to have fallen nearly into the same train of thought which Warburton, much about the same time, on the other side the Atlantic, expressed with his usual strength, and more than his usual elegance; that "God has been pleased to give three different excitements to the practice of virtue; that thus men of all ranks, constitutions, and educations, might find their account in one or other of them; something that would hit their palate, satisfy their reason, or subdue their will. But this admirable provision for the support of virtue, (he adds, in a noble strain of eloquence,) hath been in some measure defeated by its pretended advocates, who have sacrilegiously untwisted this threefold cord, and each carrying off that part he esteemed the strongest, hath affixed that to the throne of God, as the golden chain that is to unite and to draw all to it."*

Much about this period, Dr. Johnson's fondness for the study of Hebrew, led him to the perusal of the writings of Hutchinson, and although he was very far from joining with

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* Divine Legation, vol. I.

that author in indiscriminate rejection of the doctrines, and contempt of the great name of NEWTON, yet he was led, after diligent examination, to adopt many of his opinions, both religious and philosophical, in that modified manner in which they have been held by Lord President Forbes,* Parkhurst, and Jones of Nayland. As the literary character of Dr. J. rose in public opinion, his correspondence with the learned of America and England became more extensive, and we find him corresponding with Berkeley, Colden, and Franklin, on science, and with Secker,† Sherlock, Lowth, and Horne, on theology, and the affairs of the church. A part of this interesting correspondence was printed as an appendix to Dr. Chandler's Life of Johnson; (New-York, 1805)—and many other letters have since been published in some of the periodical journals of this city and of Philadelphia. In 1752, a number of gentlemen of New-York, feeling the importance of establishing some system of academic instruction in that rapidly increasing colony; and, perhaps stimulated by the recent success of the Philadelphians, undertook the foundation of a college in this city. In the next year an act of incorporation was obtained, and some provision for a fund for its support was made by a succession of lotteries; and soon after, the trustees unanimously chose Dr. Johnson president of their college. The funds of this institution were increased by the donations of individuals in the colony, and by a liberal grant of land from Trinity Church, including the lot upon which the college edifice now stands, as well as some adjoining ground, from which it still derives the most considerable part of its revenue. Besides this, the college received a benefaction of five hundred pounds sterling from the society in England for the pro-

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* See his Works, vol. 2. Letter to a Bishop, &c.

† Archbishop Secker always addressed him with the affectionate appellation of "good Dr. Johnson." See the correspondence in *Chandler's Life.*

pagation of the gospel; a bequest from a Dr. *Bristowe* of London, a very active member of the same society, of his library, amounting to about fifteen hundred volumes; and finally, a legacy from Mr. Murray* of ten thousand pounds currency, (twenty-five thousand dollars.)

But after the erection of the college building, and the purchase of a philosophical apparatus, the trustees found it impossible to proceed on the liberal plan which they had begun, without encroaching on the permanent fund, or obtaining some farther assistance. This was supplied by a collection, made in England, for the joint use of the colleges of New-York and Philadelphia, which produced to the former the clear sum of six thousand pounds sterling. The writer of this brief memorial trusts that he is gratifying higher feelings than those of mere antiquarian research, in thus recording the bounty of the first patrons of science in his native state. *His saltem accumulem donis.*

While this liberal spirit was displayed on the part of the public, Dr. Johnson was not inactive, and on June 17th, 1754, he began the collegiate course of instruction alone, with a class of twelve students. He was shortly after assisted by Mr. Cutting, a graduate of the university of Cambridge, who is still remembered as a thorough bred classical scholar; and Mr. Treadwell of Harvard College, Massachusetts, who was appointed professor of mathematics and natural philosophy.† When the institution had thus become regularly organized, the president confined his instructions to Greek, logic, metaphysics and ethics. The course of studies was of necessity adapted to the general state of literature in the country, and

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* Mr. Murray was a lawyer of great eminence in this city, about the middle of the last century. He was one of the council, and attorney general of the province, and much celebrated in his day as a great constitutional lawyer.

† Mr. Treadwell died in 1760, and was succeeded, as professor of mathematics, by Mr. Robert Harper, a gentleman educated at the university of Glasgow.

therefore not precisely what Dr. Johnson would in theory have formed for himself as a perfect model of academic instruction. The languages were however more thoroughly taught than in any other American college, nor were mathematics and natural philosophy by any means neglected; for the whole tenour of Dr. J.'s studies and writings sufficiently shows that he had little of that disposition, too common among modern scholars, to sacrifice the interests of physical science to the elegancies of polite literature; and had he lived in the present advanced state of chemical knowledge, he would doubtless have seen with regret, the professor of chemistry, in his college, expelled from the faculty of arts, to make room for a more critical study of the niceties of Greek prosody.* In the midst of all his academic labours, Dr. Johnson never lost sight of the higher duties of his profession; and he from time to time combated such errors as he deemed of peculiarly dangerous tendency in this country, in some tracts and single sermons, published about the year 1761. After filling this station, for which he was so eminently qualified, about nine years, finding his activity gradually impaired by age and infirmity, and his spirits sinking under domestic calamity, in the loss of his son and wife; seeing, too, the college thoroughly established, and flourishing beyond his hopes, under the immediate superintendence of Dr. Myles Cooper, the professor of moral philosophy, and his destined successor, a man of acknowledged learning and talents, he was induced, in 1763, to resign his office, and retire to Stratford, to finish the remainder of his days in the bosom of his family.

In this peaceful retreat, he again resumed the duties of a parish priest, and pursued his studies, and discharged his clerical functions, at the age of seventy, with the same zeal

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* See the course of study in Columbia College, as published by the board of trustees.

with which he had applied himself to them more than forty years before. While engaged in the education of his grandchildren, he was led to draw up a concise English grammar, which he published in 1765, a work of the more importance at that time, as Dr. Lowth's had not yet been published in England.

Being desirous to promote the study of the original scriptures in the colonies, and struck with some real or imaginary resemblance in the grammatical structure of the Hebrew and English, he drew up a Hebrew grammar, in which the rudiments of that language are compared, and taught together with the English. This was printed in London, in 1767, and a second edition, much enlarged and amended, in 1771. Thus occupied in works of piety and usefulness, his virtuous and venerable age glided peacefully along, until the 6th of January, 1772, when, after a very short and apparently slight indisposition, he expired, in his chair, without a struggle or a groan. His remains are interred in the episcopal burying ground at Stratford, where a neat monument is erected, with the following inscription, from the classic pen of President Cooper.

M. S.
SAMUELIS JOHNSON, D. D.
Collegii Regalis, Novi Eboraci,
Præsidis primi,
Et hujus Ecclesiæ, nuper Rectoris.
Natus die, 14to Octob. 1696.
Obiit 6to Jan. 1772.

If decent dignity and modest mien,
The cheerful heart, and countenance serene;
If pure religion and unsullied truth,
His age's solace, and his search in youth;
If charity, through all the race he ran,
Still wishing well, and doing good to man;

If learning, free from pedantry and pride;
If faith and virtue, walking side by side;
If well to mark his being's aim and end,
To shine through life, the husband, father, friend;
If *these* ambition in thy soul can raise,
Excite thy reverence, or demand thy praise,
Reader, ere yet thou quit this earthly scene,
Revere his name, and be what *he* has been.

Dr. Johnson had two sons, WILLIAM JOHNSON, a gentleman of great and early promise, who devoted himself to the service of the church, but fell a victim to the small-pox, in the prime of his life, in 1756; and *William Samuel*, born in 1727, who, fixing upon the law as his profession, soon arrived at the highest honours of the bar in his native province. After passing, before the revolution, through many important civil stations in the colony of Connecticut, he was afterwards successively appointed delegate in congress, under the old confederation, a member of the convention which framed the present constitution of the United States, and, together with Oliver Elsworth, the first senator in congress from the state of Connecticut. He finally accepted the appointment of president of Columbia College, which, after holding for a number of years, he resigned in 1800, and retired to his native village of Stratford, where he still resides.

The life of Dr. Samuel Johnson, by his friend and pupil, the late Dr. Chandler, from which most of the facts of the above narrative have been drawn, was published in this city in 1805. Dr. Chandler appears to have been a man of great activity of mind and ardour of application; but his powers were exerted chiefly in controversies, which, however important at the time, are now considered as only of local and temporary interest; the political circumstances of the times exposed him to odium, and even persecution, and his declining age was embittered with a lingering and painful disease,

which he sustained with matchless fortitude and resignation. Now, however, that the *fitful fever* of political and theological discord has gone past, it is due, as well to the reputation of that church, of which he was the ornament and the champion, as to the general literary character of the country, that the memory of such a man should not be suffered to moulder in oblivion. What is still known of the more eminent of the last generation of native American scholars, more especially of those of them who, like Dr. Chandler, were conspicuous, as well for moral as for intellectual excellence, should be preserved before it be too late. To borrow the language of a modern Latinist, "interesse enim reipublicæ existimo ut exemplatarium viborum literis mandentur; ut ad aliorum, sive imitationem, sive admonitionem, sive opprobrium proponantur."

II.

An Account *of a* Malignant Epidemic, *which prevailed in the county of West-Chester, N. Y. in the summer of* 1812. *Communicated to Dr.* David Hosack *by Dr.* Matson Smith *of New-Rochelle.*

New-Rochelle, August 17th, 1812.

Dear Sir,

Being persuaded that much benefit may be derived from a knowledge of indigenous epidemics, and having a wish to contribute my mite toward the dissemination of such knowledge, I with cheerfulness devote a little time in relating to you, agreeably to your request, those phenomena that appeared to mark the nature of the disease which prevailed in this district of country a few months since.

So early as about mid-winter, a considerable number of cases appeared in the north-eastern part of this county; and,

indeed, from the best information I could obtain, it appeared to have gradually progressed from the state of Vermont until it extended to this place.

The accounts given me of its character, before I had an opportunity of seeing a case, declared it to be insidious in its approach, malignant in its nature, and fatal in its consequences; insomuch, that the most judicious practitioners were in general disconcerted in their attempts to obviate its mortal tendency.

These circumstances incited in me a particular watchfulness over every case to which I was called; but not until the 28th March did I witness a case, in which were present the pathognomonic symptoms of the disease. From this time, the disease became more common, and the trite observation of authors, that epidemics assimilate all diseases to their own nature, was particularly appropriate.

In denominating this disease, I have no hesitation in pronouncing it the peripneumonia notha of Huxham, although occasional anomalous symptoms would render doubtful the exact propriety of the term. An accurate delineation of this disease has been traced by Dr. Hugh Williamson, in his account of an epidemic which prevailed in North-Carolina some years since, published in the second volume of the Medical Repository. In the first volume of the Medical and Philosophical Register, may be seen, the history of a malignant pleurisy, by Dr. Bard, which prevailed at Huntington, on Long Island, in the year 1749, which is also a tolerably accurate description of the disease which is the subject of the following observations.

No particular class of persons appeared to be the subjects of the disease; all ages were equally liable to its attack. In children, and some cases of adults, it bore a strong resemblance to croup. Persons of temperate and intemperate habits suffered indiscriminately; but it may be especially remarked

that those persons who laboured under the disease, that had long indulged in habits of ebriety, generally fell victims to its violence. The attack usually was sudden; the premonitory symptoms being chillness, lassitude, and pain, more or less acute, in some part of the chest, head, or extremities. When the head was primarily affected with pain, the patient soon became delirious, and disposed to stupor; and as long as these symptoms continued violent, there was no pain of the chest; or if any, it was inconsiderable; but when the pain of the head or extremities abated, the chest became affected. This was observed in a great number of cases, and it was noticed, where the lungs were secondarily affected, that is, where the pain was translated to the chest from another part, its acuteness was greatly diminished, but the consequences not less dangerous. To these symptoms followed a cough, which oftentimes exceedingly harassed the patient; and to this succeeded an expectoration of mucus, intimately blended with blood. In this particular, however, there was much variety, the matter expectorated being sometimes simple mucus, at others, unmixed florid blood, constituting a perfect hæmoptysis. It was not uncommon for patients, immediately after their attack, to complain of excessive prostration of strength, while, at the same time, they were able to walk their room with apparent ease. In the generality of cases, respiration was not very laborious, particularly in those, where some other part than the chest was originally affected. In some cases, however, such was the oppression and pain about the chest, as to excite a distressing and powerful exertion to inspire, and to induce the patient to elevate the shoulders to increase the capacity of the chest, and throw the head back in order to straiten the passage of the air to the lungs.

In the forming stage of the disease, the eyes were inflamed, and the face pallid; but as the disease advanced, the countenance became flushed, and, indeed, soon acquired an extraor-

dinary livid redness, which frequently exhibited a spotted appearance. This discoloration of the countenance was an invariably attendant symptom, and one of the most prominent characteristics of the disease; and though this redness of the skin, but in a slighter degree, extended over the whole surface of the system, yet it is remarkable, that at no time was the heat much above the natural, but generally below the healthy, standard; besides, such was the sensibility to cold, that patients often complained on the slightest exposure by raising the bed clothes. The tongue was covered with a thin coat of fur, of a whitish brown colour, which grew more dark as the disease advanced, though it often became clear, and of a bright red colour, but seldom dry.

In persons in which much plethora existed, the pulse, on the accession of the disease, was full, and slightly tense. Its tensity, however, in this state of the system, was by no means common, it being more frequently full and soft. An irregularity and intermission of the pulse prevailed in most cases, if not on the first, pretty uniformly after the second or third day from the attack, especially, if the oppression at the breast was great. In point of frequency, it may be declared, that, in the first stage of the disease, it was seldom much accelerated, but as the disorder progressed, became frequently reduced below sixty. In constitutions of a weak or nervous temperament, no tensity was discovered, nor was the fullness so considerable, though this, with a preternatural softness, stood paramount among the diagnostic symptoms. Difficult deglutition was a frequent occurrence; in one case, such was the incapacity of this function, that, before the end of the first twenty-four hours, nothing could be taken into the stomach; in this state the patient died. On examining the throat, in those cases in which this symptom appeared, no tumefaction or inflammation could be discovered; this circumstance induced me to ascribe it to spasm. In a few cases, by the second or fourth

day, petechiæ, of a red colour, which soon changed to a purple, appeared on the body and extremities.

No particular symptom or symptoms were thought to be critical; but the violence of the disease began gradually to abate, or terminated fatally, by the fifth day, or between that and the ninth. In the last and mortal stage, the extremities became cold, the pulse sunk so as to be imperceptible, a profuse cold sweat pervaded the body, especially the head and breast, and bronchial effusion, completed the fatal event.

In the treatment of this disease, the utmost circumspection was to be observed, particularly in regard to blood-letting, which, if had recourse to indiscriminately, seldom failed to produce pernicious consequences. Where I found the pulse full, and sufficiently tense to warrant the use of the lancet, it was my practice to employ it, and, I believe, often with manifest advantage; but such was the typhoid tendency and debility induced by the first venesection, that a second was never thought safe. Under no other circumstances did I think myself justified in bleeding, though the pulmonic symptoms often strongly urged the necessity of that remedy. The appearances of the blood, when drawn, were various, being, in many cases, evidently occasioned by the circumstances of blood-letting. One circumstance may be mentioned, as it was uniformly noticed; on standing at rest, it did not so readily coagulate as in ordinary cases.

In alleviating the pneumonic pain and oppression, blisters were highly serviceable; these, applied to the chest, were large and repeated, and a discharge kept up from them. In the latter stages also, blisters, applied in succession to the extremities, were found to produce the happiest effects. Purgative medicines were early prescribed, and the evacuation produced by their operation, was usually of a dark colour, often approximating to black, and, in fact, this complexion of the stools was observed in every stage of the disease, but

without any extraordinary fetor. A diarrhœa frequently supervened, accompanied with a discharge of blood from the bowels, which tended greatly to reduce the strength of the patient; this symptom was most certainly relieved by the use of injections of starch, with tincture of opium. Sudorifics, if adapted to the circumstances of the patient, were highly beneficial in the two or three first days of the disorder. Much caution, however, in this part of the treatment, was necessary, inasmuch, as many were disposed to profuse morbid sweats, which were extremely debilitating, and to prevent, or check which, demanded the employment of every means. In accomplishing this end, nothing was found so effectual as washing the body with warm brandy and water, or clear brandy or spirits; expectorants were also employed. Among this class of medicines, a decided preference was given to the rad. seneka. Much dependence was placed on calomel, which was given in order to excite ptyalism. In effecting this, great difficulty was often experienced, and, in some instances, such was the inactivity of the absorbents, as rendered it impossible; but in no case, where a salivation was produced, did the disease end fatally. In directing the use of the various stimuli, I was influenced by the state of the pulse, and the temperature of the skin; if, in the first, there was want of action; or, in the latter, a diminution of heat, they were esteemed necessary; under no other circumstances did I think them indicated. These, in general, were the leading remedies in my method of treatment, and which, I have the pleasure to state, were in common successful.

Thus, sir, have I given you a concise view of the disease, as it appeared in my circle of practice, and which continued to prevail through the months of April, May, and June; in the latter month, however, the number of cases was comparatively few, and the last which I saw was in the early part of July.

During the prevalence of this disease, the changes of weather were considerable, especially in the temperature of the air; the quantity of rain was unusually great, and the wind generally blew from the north and north east quarter. As a concluding remark, I would observe, that at no time did I account the disease contagious.

I am, Sir, your friend and humble servant,

MATSON SMITH.

Dr. David Hosack.

II.

OBSERVATIONS *on the Generation and Introduction of* CONTAGION *by Ships. In a letter to Dr.* DAVID HOSACK, *from Col.* J. WILLIAMS, *President of the United States Military Philosophical Society, &c.*

WITHOUT engaging in the controversy relative to the importation of the yellow fever, or its generation, in a foul atmosphere, in any country, I may be permitted to state some facts, and to draw such conclusions as these facts will evidently justify, on the peculiar facility of the importation in sea vessels.

A sea vessel must be made *water*-tight, or it could not float on the sea; it must be closed above as well as below, or it would be liable to be filled by the sea washing over it in a storm; and the cargo must be compactly stowed, or it would change its position, by the tossing or rolling of the ship, and endanger its very existence. From these considerations, it is self-evident, that a ship must be *air*-tight as well as *water*-tight, and a portion of that atmosphere, whether pure or foul, in which the cargo was taken in, would be transported with it to the place where the cargo may be unloaded, with this single difference, that if pure, it might, by its confinement, be-

come foul, but if noxious, it might, from that cause, become more offensive, but could never become pure.

To illustrate this statement, and to take a more comprehensive view of the subject, let us examine the construction, use, and general situation of a ship and its cargo, during a voyage to and from any place within the tropical regions.

Of the Construction of a Ship.

The hull (the only part necessary to be examined in this inquiry) is composed of timber and plank. The frame may be called its skeleton, and the plank its external skin; this description applies to its deck, as well as to its bottom and sides, all being water-tight, and, except by the apertures of the hatchway and forecastle, which are both covered with tarpaulins, and battered down when at sea, neither air nor water can enter or escape; some, indeed, may force its way through the crevices of the bulk head, when the lower deck is not flush fore and aft, and some gets through the store room, on the occasional opening of the after scuttle, to the great annoyance of the passengers and people in the cabin and steerage. The ribs of this skeleton are of a certain thickness, and are at a certain distance from each other, so that, between the ceiling (that is, an inside skin of plank nailed on these ribs) and the bottom, there are spaces, the cubical contents of which are equal to the square of these spaces multiplied into the thickness of the ribs.

These form receptacles for all the foul air, especially that which is more ponderous than the external air, and, by its coolness, (being below, and consequently of the temperature of the water) even the same kind of air would be more heavy than the circumambient atmosphere, which, in the West-Indies, is generally from eighty-five to ninety-five degrees. But as it is not necessary that the ceiling of a ship should be tight like its bottom, whatever filth there may be in a liquid

state, within the ship, must filtrate through the seams of the ceiling, which are always open down to the limbers on each side of the keelson. There are in all ships, holes or notches cut in the floor timbers, close to the bottom, in order to permit what water may be in a ship to run into the well-room, where the pumps are placed; but whatever will not filtrate through these passages must remain in the limbers, and, accordingly, whenever a ship is discharged, a plank of the ceiling on each side of the keelson (which is generally left loose for the purpose) is taken up, and the limbers are cleared of all the filth collected during the voyage.

Every man who has been at sea in a tight ship, has been sensible of the stench of the bilge-water, or the accumulated filth in its liquid form, as soon as she quits the port, owing to its agitation by the ship's motion; and every captain of a ship knows, that the colour of the paint in his cabin becomes changed, precisely as the colour of the paint in necessaries on shore is well known to be discoloured by foul exhalations. This is so well understood among seamen, that, to designate a tight ship, they always say, "*she does not make water enough to keep herself sweet;*" and, in many instances, they have a plug in the run abaft, and below the water line, purposely to let in sea water to mix with the foul water within, and raise it high enough to be pumped out. The pumps, it will be remembered, cannot take up all the water, for there must be a hole at the side of each of them to let the water enter, and, the moment the water is below the superior part of the hole, the air will rush in, and the pump will suck; besides, owing to the position of a ship under a press of sail, or by pitching and rolling in a sea, a great part of the water between the ceiling and bottom does not get to the pump.

Of the Cargo of a Ship.

Our inquiry confines us to the produce of the West-Indies, and of other tropical countries, such as sugar, molasses, cotton,

coffee, cocoa, and fruits in general. Rum is sometimes imported, but, since the almost universal use of brandy, this now makes an inconsiderable part; what is usually mixed with other parts of a cargo would not correct the effluvia, but only serve to render them somewhat more volatile.

In loading a ship, the heaviest articles are put lowest, for obvious reasons, that relate to the navigation of a ship. The sugar and molasses then, go into the bottom; the coffee and cocoa go into the wings and the interstices among the casks, and the cotton is stowed above all. Here then, it is evident, that the kernels that may drop from the bags, and the filtrations or leaks from the sugar and molasses, will all find their way to the limbers, and there, in the temperature of at least eighty degrees, go into a state of fermentation; while the air, generated by that fermentation, will ascend, and be as much as possible imbibed and retained by the cotton. In proportion as air is generated, the whole will become compressed, and give a great velocity to that which might be forced through crevices, &c. Add to this, the issues from the barrels of provisions, from the casks of water, grown foul by long keeping in stagnant air, of waste of every kind made by the sailors between deck, in short, every thing of a filthy kind will find its way to the bottom, and add to the general fermentable mass, always keeping the hold full of compressed foul air. Even the cleanliness of the cabin accumulates the filth below, by washing every thing down into it.

This description of a ship and her cargo is purposely made, with strict attention to the naked facts, and all the effect of negligence, and want of judgment, which many circumstances would justify much reliance upon, in support of the conclusion, are omitted, because the argument is not intended to rest upon accidental or extraneous particulars. The statement evidently shows, that if the germ of the yellow fever be thus *boxed-up* in the West-Indies, it will remain in the best possi-

ble hot-bed, till it be brought to sprout in the neighbourhood of our wharves.

Much has been said about the filth of our docks and slips, but these are covered with water, in the motion of rapid tides, at both flood and ebb, and, at the worst, are exposed to the constant action of an active atmosphere; while, on the contrary, a ship has, for several weeks, the noxious vapour carefully kept in vessels, almost hermetically sealed, without the least chance of dissipation. Let a large diving-bell be placed upon the bottom of a very filthy dock, for the whole time that a ship is coming from the West-Indies, and then we might admit of a comparison between the noxious vapour contained under one and within the other. Or to make a more appropriate, and, perhaps, a more accurate comparison, let one of our mud-machines, said to have been so productive of deleterious air at Brooklyn, be covered with an air-tight deck, and kept four weeks in a temperature never less than eighty degrees, and then, on a sudden, be opened, and the air let loose in a populous neighbourhood, by no means remarkable for its cleanliness, and some affinity between the cases might be claimed; but even then, the quiet residence in a calm dock would bear no proportion to the agitation of a tempestuous sea.

Every man of any chemical knowledge will admit, that air, as well as other fluids might, in a calm state, exist in strata, according to their density, just as we might make different strata of water, spirits, alcohol, and ether, yet, all being colourless, the bottle would present to the eye a homogenous appearance; so, of air, where the densities differ in the proportion of one to fifteen, perhaps more, without being distinguishable by sight, a perfectly quiescent state would render the comparison much in favour of the mud-machine. Agitation is very favourable to fermentation, and the intermixture of all the air, generated by the fermentation of various substances, is sure to affect the whole mass with the deleterious quality.

But there is another point of comparison which is not inapplicable to the subject: our climate is the most changeable in the whole world; the different seasons show a range of thermometrical graduation of more than one hundred degrees; and even in the same season, often in the same day, the variations are very great, while in any case, either of heat or cold, the same temperature seldom lasts three days. We have frequently seen a fall of snow and summer heat within the space of a few hours.

In the West-Indies, on the contrary, there is a perpetual summer heat, scarcely agitated by the gentle sea and land breezes which, like the flux and reflux of the tide, carry off and bring back the noxious particles contained in it alternately. It is only in the hurricane months that nature restores salubrity by violent atmospherical agitation; this is the season of health; and this is precisely the period when, in the course of commercial arrangements, American vessels are not there.

The foregoing remarks apply generally to the construction of a ship, the nature of its cargo, and the occurrences relative to both in the course of a voyage. But it may not be improper to add a few particulars relative to the passengers and people during the same period. We are very sensible on shore of the importance of personal cleanliness; and this is aided by the conveniences of frequent washing, the means for which, even the most indigent, have always at command.

At sea, only salt water can be used for this purpose, owing to the limited quantity and important use of fresh water on ship board. It is often prohibited even to wash the hands and face in fresh water; and it is never allowed for washing of cloathing of any kind. Soap is not miscible with salt water, and is of no use whatever. Of late, indeed, it has been discovered that fuller's earth, mixed with salt water, will render it apparently softer, and it is thence imagined that

it answers the purpose of soap. This, in some degree, may be true, since the earth may take up a part of the oleaginous substances, with which foul linen, &c. is usually impregnated. But clothing washed in salt water, will never become perfectly dry in a moist atmosphere, owing to the salt water which is always retained, and which is perpetually imbibing moisture. For these reasons there is but little washing done among the crew, and none among the passengers. Now let us imagine a case to happen in a house at the sea side, in a warm climate. Suppose that there were but two apartments in this house, just as large as the cabin and steerage of a ship; that the bedsteads were fixed to the walls like cabins, and that, like the cobler's stall, they answered the purpose of every usually inhabited apartment. We allow a beach as large as a ship's deck, and the cooking to be done in the open air; but there must be no pump, and only salt water can be used, except for cooking and drinking. What would be the situation of such a family at the end of one month? Would there not be reasonable apprehension that a gaol fever would be generated there? And let me ask, if among our most indigent citizens, who inhabit such places as the yellow fever has appeared in, any house has been found in the situation described. Yet any man who has been a few weeks at sea, will recognize the fidelity of the representation, as it relates to a sea vessel, and who has ever boarded a ship at the instant of her arrival, without feeling an impression of disgust? Yet all good captains take care to make the ship herself as clean as possible, just before they expect to arrive. When in port, the passengers land their baggage, and give out their foul cloathing, and the crew also open their chests to have a general washing; and all the confined effluvium, like that of Pandora's box, is immediately scattered in every direction.

A celebrated French writer on the customs, manners, and general habits in Turkey, (Baron de Tott) in speaking of

the plagues, has this remarkable passage: "La cause qui la propage et le foyer qui la conserve, se trouvent l'une et l'autre, chez les marchands frippiers à Constantinople." So that, according to this author, if the sale of old clothes were prohibited in that city, that terrible scourge might be arrested in its awful and deadly progress. The application of this remark is too evident to need further observation.

Nothing in this description is intended to apply to ships arriving from more northern countries, nor to ships of war. The writer has, in many instances, witnessed the active cleanliness of large ships to and from Europe, and along our own coast; and he has, with great satisfaction, observed the efficacious use of wind sails in this and other harbours. But the necessity of these judicious preventives, under such favourable circumstances, serve more strongly to enforce all the foregoing observations, when applied to such small, confined, and generally unhealthy vessels as are usually employed in the West-India trade, and the infectious kind of cargoes imported in them.

IV.

An Essay *on the* Malignant Epidemic Peripneumony, *which prevailed at Newtown, Long-Island, in the Spring of* 1812—*By* Valentine Mott, M. D. *Professor of Surgery in Columbia College, Corresponding Member of the Medical Society of London, &c. in a letter to* J. C. Lettsom, M. D. &c. *London.—Communicated to the Editors of the Register.*

The occurrence of epidemics ought to be carefully and faithfully recorded, for the instruction of posterity. Every age presents to us more or less of novelty, in the commencement, progress, and termination of pestilential diseases; we

need only refer to the historic page for a satisfactory illustration of this position. The history of the prevalence of epidemical diseases, would form a very interesting subject of inquiry. It is a theme, rich in matter, both curious and interesting, and very considerably instructive and important; and it is by the industry and diligence of our worthy and venerable predecessors, that so many invaluable legacies have been bequeathed to posterity; which will long continue as land marks, or beacons, to direct the medical traveller.

Every attempt, therefore, however feeble and imperfectly performed, will be considered as praise worthy, if not substantially and practically useful. With this impression, I shall venture to give somewhat minutely, an account of a very malignant and fatal form of disease, which prevailed at Newtown, on Long-Island, in the spring of 1812, and which, from its character, I would call a Malignant Epidemic Peripneumony.

The weather, during the prevalence of this epidemic, was very remarkable for a great quantity of rain, and the easterly and north-easterly winds. For the space of more than a week, frequently at a time, the wind would be from the west in the morning, with a clear atmosphere, and by mid-day, from an easterly quarter; and if not attended with rain, the atmosphere would be loaded with a mistiness, accompanied with an unusual degree of chilliness. This peculiarity in the season, did not fail to arrest the attention of the most careless and common observer. As late as the first of fifth month, (May) but very little appearance of vegetation was observable, even in the warmest and most favourable situations; and on the third and fourth of the month, a rain and snow storm, occurred from the north-east, which was more than commonly severe and cold. After this kind of stormy weather, a great increase in the number of new cases was generally observed. The whole month was uncommonly cold and unpleasant; in-

somuch that the common fruit trees of the season were not fully blown till the beginning of sixth month, (June) which is unparalleled in the memory of the oldest inhabitants among us.

This disease attacked all ages and constitutions, and was mostly confined to those districts, which were inhabited by the lower and more indigent classes: exceptions to this, however, now and then occurred. It was ushered in, in all cases by a very severe chill, which lasted for some time; this was followed by a great degree of heat, pain in the back, limbs and head, and most intense pain in the chest; great difficulty of breathing, and in some instances the oppression was so great as to threaten immediate suffocation, with violent cough, and expectoration of yellow matter, and generally very bloody. The secretion from the lungs, when not bloody, was so yellow as to stain linen on which it was received. The expectoration of blood was much greater than had usually been observed to take place in any peripneumonic affection. The pulse generally was small and frequent, and by no means tense; skin hot and dry; tongue white and moist; bowels more or less relaxed, with nausea, and in many instances violent and repeated vomitings, attended from the commencement of the chill.

In some instances a profuse diarrhœa attended from the first attack, so as to exhaust the patient very much, accompanied with a most distressing nausea. In these cases, much less affection of the chest was observed; still, however, sufficient to claim particular attention, accompanied with the yellow expectoration, and even blood.

After the lapse of one or two days, great prostration of strength would take place, without a comparative abatement in the oppression and distress at the breast; which continued, though in a lesser degree, accompanied with an augmentation of the pain in the head, heat of the skin, and other symptoms of ardent fever. At this time, frequently a considerable

yellowness would be manifest in the eyes and face, and generally over the body; in some cases to as great a degree as was ever observed in the autumnal bilious remittent, or yellow fever of our cities. This bilious discolouration lasted through the whole course of the disease, and even during the convalescent state, which was generally very protracted and tedious.

It was very natural, when called to a patient labouring under the symptoms which have been enumerated, to deplete the sanguiferous system by bleeding, and that not very sparingly; especially in those cases where the peripneumonic affection was the greatest. Not only the symptoms would seem to warrant such practice; but the blood too, when drawn, exhibited the sizy appearance, and buffy coat, though less viscid than common. But the effect of the bleeding upon the patient was not such as to warrant a repetition of the operation: once was enough, and in some, it is feared, more than enough, even when only three or four ounces were taken. It is a fact, not a little remarkable, that even so small an evacuation from the blood-vessels, as last mentioned, would induce the most astonishing prostration, with small and feeble pulse, &c. convincing the physician, before he left the chamber, of his error; though the evacuation seldom failed to give temporary relief to the distressing affection of the chest.

The state of the stomach and bowels was such as generally to forbid the use of evacuants, except of the mild or laxative kind; for even these, in some instances, would be followed by delirium, if they operated at all freely. However much I may be attached to the Hamiltonian plan of free evacuation from the alimentary canal, and from what I have seen in the practice of this learned gentleman, most certainly am; yet, in this disease, it ought to be used with the greatest care and circumspection.

As the most urgent affection seemed to be that of the chest, no time was to be lost in attempting to relieve it; and

for this purpose a large blister should be applied, and one sufficiently large to cover all the fore part of the thorax. This must be several times repeated; and it is better to reapply it, than to promote a discharge from the first; and each plaster will be found to give great relief: indeed they appear almost the only remedies to relieve the thoracic distress before mentioned. To aid the plasters, we must now endeavour to excite a free discharge from the skin by perspiration. This is one of the most important indications in the treatment of this disease. To effect this object, in the fullest and most speedy manner, not only warm teas must be exhibited, but the external application of warm and relaxing means, must be resorted to. For internal use, a strong decoction of seneka and aq. ammon. acetat. as much as the stomach would bear; or small quantities of opium, ipecac. and camphor, and frequently repeated; together with the external application of the steam of warm bricks, wet with vinegar, and wrapped in flannel; or bottles of warm water, placed close to the patient in bed, and the warm bath,* were found the best calculated to produce this effect. When sweating is once excited, it ought to be kept up from twenty-four to forty-eight hours, without intermission; as the relief afforded to all the symptoms, never failed to justify the practice.

The exhaustion of the powers of life was so great in some instances, in a short time from the first attack, as was shown by a coldness of the extremities, weak and small pulse, and coma, that no time was to be lost in throwing in stimulating and cordial medicines; as toddy and wine whey, even though

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* The sage Hippocrates, when speaking of the warm bath in his book on acute diseases, has the following words: "Convenit autem in totum magis peripneumoniis, quam febribus ardentibus. Nam dolorem lateris et pectoris at dorsi, balneum lenit, et sputum maturum facit, ac educit; et facilem spirationem reddit, et lassitudinem eximit, articulos enim et cutis superficiem mollit."

Hippoc. lib. de vic. rat. in morb. acut. Tom. I. p. 226.

they might appear to be contra-indicated by the affection of the chest. If epispastics were previously applied, the pectoral affection never appeared to be aggravated by it; but, on the contrary, was relieved as soon as a general warmth was restored, and especially if accompanied with sweating. When the diarrhœa was profuse, the addition of a little tinct. opii to the decoction of seneka and aq. am. acetat. or the exhibition of a little solid opium, would generally keep it within proper limits.

As soon as the affection of the chest was removed by the means above mentioned, cordial and stomachic remedies were loudly called for; such as wine whey, infusion of camomile flowers, or decoction of quassia, which latter appeared to answer the best. The relief of this affection was accompanied with a corresponding abatement of all the other symptoms; the tongue became moist and clean; in fact, the patient would appear to be convalescent. The cough would now be troublesome, with the yellow expectoration, but not bloody; the whole body would be sometimes as yellow as an orange; and it was at this time the patient required the most careful nursing, owing to the most remarkable exhaustion of the powers of life. The cough was relieved by the tinct. opii camph. and decoct. senekæ, or the mistura sperm. ceti; but it continued to annoy during the convalescent state, which was as before observed, commonly lingering.

Its duration was very various. In some instances it proved fatal in the course of eight-and-forty hours, three and five days, and in some cases as late as the second and third week. In the protracted cases, death was always preceded by typhoid symptoms, accompanied with an urgent cough and expectoration. But in those that terminated the most suddenly, there were no typhoid appearances. May not death, in these instances, be occasioned by gangrene of the lungs, as has

been observed by some of the older authors?* It observed the ancient law of epidemics, of being more severe and fatal in its commencement, than at its termination. The average mortality was about one third, and one in four that were attacked.

This disease continued to be very rife and fatal, till the beginning of sixth month, (June) when a number of cases occurred, in which there was but little difficulty and pain on breathing, and but little cough. In these cases, violent delirium attended from the commencement, with ardent fever, with scarcely the slightest remission for three or four days. In these instances the sickness at the stomach and diarrhœa were considerable, and the prostration that followed very great. They all yielded to the use of blisters, and the general sudorific plan that we have already laid down, without any typhoid state supervening.

The disease which has now been described, was not confined to the township of Newtown, but took a very extensive range through our state. It was prevalent in many places on the north side of Long-Island; mostly confined, however, to that tract of country which extends from Newtown to the town of Huntington. In the counties of East and West Chester, it has likewise prevailed; but Dutchess County, more than any other part of the state, will long recollect its dreadful and fatal ravages. The inhabitants of our own city, while they deeply sympathized in the distress and calamity upon their borders, were not free from consternation and dismay at home.†

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* See Van Swieten's Commentaries, vol. 8. p. 261. Also, McBride's Practice of Physic.

† ——Terruit urbem;
Terruit gentes,———. Hor. Carm. II.

As there is a great diversity of opinion, even among medical gentlemen, who have been conversant with the spotted fever, it will not, I hope, be deemed impertinent to subjoin, that I believe in the identity of the late disease in different parts of the state. I venture to do it, however, as it is predicted upon information that cannot be questioned: it is not from supposition or conjecture. The disease was prevailing through a great tract of country at the same season of the year, though no doubt in a slight degree differing from some peculiar local and individual circumstances, yet it was essentially and virtually the same epidemic. Huxham informs us, that he has known a catarrhal epidemic fever, in very cold and mountainous situations, to assume the nature of pleuroperipneumony; whereas in very low situations the same has run into a slow nervous fever. The same popular disease therefore, reigning in different places, may require a very different mode of treatment.

We surely cannot denominate the disease which we have described, a pure or simple fever; or, as many have called it, spotted fever! If we look into Dr. North's book, on the malignant epidemic, which is called spotted fever, and which he has described with great accuracy and care, no one will hesitate to say, that the present epidemic is a very different disease. Dr. North has been at more pains than any of his cotemporaries, in collecting and embodying a stock of important information, relative to this very extraordinary and novel disease. The annals of our country will have to record this new hydra, or monster, to be enrolled on the endless catalogue of human maladies. After contrasting it with the plague, scarlatina, cynanche maligna, &c. he is of opinion, that each has its peculiar shades and complexions, though they belong to the same family of diseases; and that the spotted fever is a new species of Typhus. In giving a nosological character, he says, "I think it ought not to be arranged under the order

phlegmasia, for the following reason: although in some few cases local inflammation has been induced by the disease; yet this has not oftener happened in this epidemic, than in other malignant fevers. Whether it more properly belongs to the order febres, or exanthemata, is not so clear."

Dr. Arnell states, that they did not bear bleeding, and the blood showed no buffy appearance. In enumerating the symptoms of the disease, no mention is made of any peripneumonic affection, as pain and difficulty in breathing, or cough, nor bloody expectoration; it attacked all ages, and proved fatal to six in seven who were affected; in some, as early as fifteen hours from the first attack, and from one to three days. Petechiæ appeared all over the body, and of a large size in many instances.*

Dr. Strong, in his Inaugural Dissertation on the spotted fever, as it appeared in the town of Medfield, Massachusetts, in the spring of 1806, and in Hartford and Windsor, in 1807, has taken great pains to describe the disease, having had many opportunities of observing it. From his essay, it appears, that the inhabitants of high and low situations are equally subject to it; and though there is some variety in the commencement, the leading symptoms are well marked.—"Wherever it appears," says he, "in whatever manner it makes its approach, that debility, which is more to be dreaded than a strong man armed, is the most striking characteristic." In another place, he says, the most distressing symptom, and one the most to be dreaded, is a peculiar sensation about the upper orifice of the stomach, which patients call "a deadly feeling, a death like coldness or faintness."

In the Massachusetts Medical Papers, may be found a very detailed and minute account of the spotted fever, as it pre-

* See Dr. Arnell's account of the spotted fever, as it appeared in Orange County, in 1809-9, in the 1st vol. of the Medical and Philosophical Register.

vailed in different parts of the eastern states. The zeal and interest which the members of the Medical Society of Massachusetts have manifested in their investigations into the nature of this extraordinary and novel disease, will be a lasting memorial of their philanthropy and benevolence. In detailing the symptoms of this disease, they say, "The respiration is much and variously affected; in general it is difficult. Cough rarely occurs, and the difficulty of respiration has not commonly appeared to rise from an inflammation of the lungs."*

The cause, whatever it may be, which produces this new form of fever, must have a powerful and deadly operation upon the energies of the nervous system; more extraordinary than even the pestilence of the Levant. There is no example in the whole of medical records, as far as I know, of a morbid poison producing such sudden death, as we are told takes place in this disease.† The sudden and unexampled prostration of strength, together with the great subduction of animal heat, constitutes a very important and prominent feature in this new epidemic; insomuch, that Dr. North says, "most physicians who have had experience in it, consider their patients relieved from a most deplorable state, as soon as they get the surface of the body warm, by any remedies which may be in their power." The conclusion, we therefore think unavoidably follows, that this is altogether a new form of disease in the land;‡ and as Dr. North very properly says, may be considered a new species of typhus. No form of typhus which we have heretofore had described by the celebrated Dr. Cullen, the Febris Nova of Sydenham,

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* Vide Massachusetts Medical Papers, vol. II. part 2.

† See Dr. North on spotted fever, and the Mas. Med. Papers, vol. II. part 2.

‡ Jam nova progenies cælo demittitur alto. Virg. Eclog. IV.
Hic vero subitum, ac dictu mirabile monstrum
Aspiciunt; Virg. Georg. lib. IV

or the Lenta Febris of the great Roman physician Celsus, can be compared to this new monster.

The epidemic of the present season has not been a new form of disease. It was certainly different in its character from the type of diseases which have been common among us for a series of years, which has induced some to consider it unprecedented in the annals of medicine. The records of our own country, will, however, furnish us with an account of the same form of disease, as it prevailed at Huntington, on Long-Island, in the winter of 1749, with great and alarming mortality.* By most of the European writers of the last century, we find many diseases described of the same malignant peripneumonic character, which may be identified with the present, without doing any violence to nosological arrangement. We may go still farther, and say, that from the time of the Coan oracle and genuine interpreter of nature, to the present day, accounts of the same form of disease may be found scattered through the mouldy pages of antiquity.†

It may be difficult for some to subscribe to our opinion, that it is a phlegmasial disease, on account of the diarrhœa, and more than common pungency of the heat upon the surface of the body. We all very well know, that such symptoms are

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* See Dr. John Bard's essay on malignant pleurisy, in the Medical and Philosophical Register, vol. I.—One of the oldest and most respectable inhabitants in Newtown informs, that in 1749, it prevailed more generally, and with greater mortality in Newtown, especially among the old inhabitants, than it did at the present season. He recollects perfectly well too, its great mortality at the same time about Huntington.

† The following diseases, though described by different names, are closely allied to the present—viz. The peripneumonia putrida; thesis parisiens, 1752; peripneumonia maligna, of Sauvages; peripneumonia pestilens, of Schenkius; peripneumonia typhodes, Deplaigne, Journ. de Medicine, Septembre, 1757; pleuro-peripneumonia epidemicæ aumalæ apud Normanos, Marteau de grandvilliers observante, and the pleuritis putrida of Sauvages. Of the peripneumonia pestilens, Sauvage observes, "Peripneumonia pestilens Europam ita devastavit anno 1348, ut vix decima hominum pars superfuerit, si credamus Gallo et Schenkio; ea intra tres vel quatuor dies trucidabat." Sauvag. Tom. 2. p. 498.

by no means common to peripneumonic affections, especially as they appear in our country; and it is probable that the oldest of the profession among us, have no recollection of having ever witnessed a similar assemblage of symptoms. To corroborate our opinion, we shall adduce the experience of both ancient and modern times, which will irresistibly show that these symptoms have attended such forms of malignant peripneumonia, and have been in their consequences, either terrible or fatal. It did not escape the vigilance of the sagacious Hippocrates, for he says, "A pleuritide aut peripneumonia occupato, alvi profluvium accedens malum."*

The attention of a careful and accurate observer, was immediately arrested by the peculiar pungency of the heat upon the surface of the body; as great as was ever experienced in the most malignant and ardent forms of fever. This extreme degree of heat of the skin, some of our best writers have considered a very prominent feature of typhoid forms of fever; and have expressed their ideas of it in different ways. Dr. Moore, when treating of typhus, says, "on pressing the skin of the patient, a sensation of a peculiar penetrating heat remains on the hand for some minutes after; whereas the heat communicated by the skin of a patient in an inflammatory fever, is more transient." Sir John Pringle observes, that he has been sensible of an uncommon ardour, leaving an unpleasant sensation in his fingers for some minutes after feeling the pulse.‡ Dr. Huxham says, "there is a peculiar biting heat in malignant fevers."‖ Dr. Wright has used the same language.§

Whatever may be the cause, it is certain, that there was this peculiarity in the form of the peripneumonia of the pre-

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* Hippocrat. Aph. 16. Sect. 6.

† Moore's Medical Sketches.

‡ Huxham's Works, vol. 2.

‖ Pringle on Diseases of the Army.

§ Annals of Medicine.

sent season; which will warrant the conjecture of a febrile influence in the constitution of the atmosphere; but in what way this exists, or how it operates, is entirely beyond the reach and scrutiny of inquisitive man. Probably the season of the year only, determined the commotion or irregular action, induced by this epidemic influence upon the lungs, thereby producing a mixed form of disease. Such was its complex and fatal character, that it required all the vigilance and care, which the justly celebrated Heberden enjoins in febrile diseases. "In omni febre oportet vigilare, et quicquid mali oriatur, idoneis remediis succurrere."*

In addition to the above mentioned symptoms, we find that petechiæ and vibices, have been common in this form of peripneumonia, as it has prevailed in England. This any one may be satisfied of, by perusing the works of that careful and accurate observer, Dr. Huxham. A peripneumonic fever, which was very pestilential, raged and carried off numbers in 1746. There was a great load upon the breast and precordia, accompanied with violent pain of the head, and soon after delirium. The expectoration was very frothy and bilious, and proved of little service to the patient. Some were seized with profuse and weakening diarrhœas, and a suppression of expectoration, and the consequence was always terrible. In his essay on fevers, he says, "In malignant pleuro-peripneumonies, and peripneumonies, I have too often seen, and been sorry for very untoward mistakes in this matter, particularly in the years 1740, 41, and 45. And therefore, though the first bleeding may be very proper, the subsequent may not be so, nay, pernicious.† In another place, when speaking of certain peripneumonies which will not bear bleeding, we find the following remarks:—"And I have observed the same in

* Vide Heberden's Commentaries.

† Vide Essay on Putrid Malignant Fevers, vol. 2.

several epidemic peripneumonies, particularly in the latter part of the year 1745, and in the beginning of '46; during which we had an epidemic peripneumony, in which, after a second bleeding, (and even sometimes after a single bleeding) the pulse and strength of the patient sunk to a surprising degree; and they ran into a sort of nervous fever, with great tremors, subsultus tendinum, profuse sweats, or an atrabilious diarrhœa, with a black tongue, coma or delirium; though at the bleeding the pulse seemed to be full and throbbing, and the pain, cough and oppression, so very urgent as to indicate bleeding very strongly."* Again, he says, "It was surprising how much the pulse and strength of the patient sunk after bleeding in such cases: with no small concern and astonishment, I several times observed a vast anxiety, fainting, cold sweat, and a thready intermitting pulse, very soon succeed it; though at the very beginning of the fever, and when the pulse seemed strong and throbbing before. I have seen this even in pleuro-peripneumonies, where the pain of the side was violent, the load at the breast great, and the cough considerable; otherwise the peripneumonic appearance might had been imagined to be a mere symptom of a malignant fever." I am very sure, says he, this putrid peripneumony never had a second bleeding with advantage; seldom indeed the first, unless there was some considerable degree of firmness and tension in the pulse.†

The same form of disease, in all probability, is alluded to by Lancisi, and afterwards by Baglivi, when they enjoin the following caution as to bleeding:—"In pleuritide, peripneumonia, &c. si in sanguine è vena secta extracto non appareat in superficié crusta alba pessimum; si vero in altera sanguinis missione incipiat apparere, bonum; contra, si in secunda ne

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* Huxham's Works, vol. 2.

† Essay on Peripneumony, vol. 2. p. 211.

quidem apparebit, abstineto statim a sanguinis missione, aliter interficies agrotantem."*

Dr. M'Bride, in speaking of the fallacious appearance of the buffy coat in pneumonic inflammations, and that there are inflammations where this crust is never seen, says, "but on the contrary, the blood is found in a broken and dissolved state, and the patients bear bleeding as ill as they do in putrid fevers."

"But when these inflammations take place in constitutions where the crasis of the blood has been previously injured by a putrefactive acrimony, or where they are complicated with fevers occasioned by infectious miasmata, such as have been formerly described, then the symptoms of extreme weakness and dejection, sickness, vomiting, petechiæ, and delirium, will be found superadded to the pain in the chest, cough, oppression, and difficulty of breathing."

"These complicated pleurisies and peripneumonies are constantly mortal, because the extreme weakness and dejection, hinder the large and repeated bleedings, which are the only things capable of removing the inflammation."

"In prisons, hospitals, and transport ships, where infectious putrid fevers prevail, it is not uncommon to meet with these malignant peripneumonies, as the reader may see in Huxham's Essay on Fevers."

"They have also," he observes, "been found to rage epidemically, in certain seasons, in different countries of Europe, and appear to be occasioned by a most corrosive species of acrimony settling on the lungs, which in a short time produces gangrene, not conquerable by either art or nature."†

Dr. John Bard, (whose unsullied integrity and professional reputation, united with the greatest urbanity of deportment,

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* Caput de Pleuritide.

† See Dr. M'Bride's Practice of Physic, 416.

conciliated and endeared him to all; whose name will enkindle the most pleasing recollections; a name that will be enrolled on the imperishable annals of our country*) has left us a very valuable essay on the malignant pleurisy, which was very fatal at Huntington in 1749. Though this paper does not contain so fully as could be wished, an account of the symptoms and method of treatment; yet we presume to say that it was the same disease as the epidemic of the present spring. It is most consistent with strict nosological arrangement, to denominate the disease, which has been the subject of our examination, a peripneumony rather than pleurisy; and which, from remote antiquity, has been considered the most dangerous; though commonly, as Celsus correctly observes, has more danger than pain: "Id genus morbi plus periculi quam doloris habet."†

The symptoms of the disease, as they are enumerated by Dr. Bard, warrant this opinion; for we have his own words that they were of a peripneumonic character, as will be seen by the following paragraph, which contains all that he has said of the symptoms and method of treatment, and which we shall quote to exhibit more clearly its identity with the late epidemic.—"The patient," says he, "in this malignant pleurisy, is first seized with a shivering rigour, which is soon succeeded by a pain in his back and head, an early disposition to vomit, with great oppression and anxiety. Soon after the fever is formed, these appearances are followed with an acute pain in the breast and side, resembling peripneumonic

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* In speaking of this venerable physician, we are reminded of what the great historian Tacitus, has said of his illustrious father-in-law Agricola, and think it not inapplicable to the present occasion.—"Finis vitæ ejus nobis luctuosus, amicis tristis, extraneis etiam, ignotisque non sine cura fuit. Vulgus quoque, et hic aliud agens populus, et ventitavere ad domum et per fora et circulos locuti sunt."
Tacit. Vit. Agric. Tom. 2. p. 301.

† Vide Celsus, lib. IV. cap. 7. p. 154. de morb. pulmon.

symptoms, attended with a laboured and painful respiration, a frequent cough, by which a crude, glazy, frothy spittle, slightly tinged with blood, is discharged; light deliriums through the whole course of the disease, not constant, but frequently returning; the tongue for the most part parched and dry; but the skin inclined to be moist and sweaty, which, if encouraged, the skin and coats of the eyes become extremely yellow; the blood appears rather dissolved and thin than viscid; the pulse in most cases soft and frequent. This disease generally ends in the death or safety of the patient on the fifth day, sometimes on the third or fourth, from the invasion of the distemper. In those that have died, it has been observable, that some hours before their death, they have recovered their senses, and appeared easy, but soon after have unexpectedly and suddenly expired. Most of these symptoms, together with the time it takes in going through its stages, are similar to the stationary fever,* excepting the pain in the side, which appears to me to arise from the acrimony of the disease, which (in its simple state used to be thrown upon the stomach and bowels, producing violent pains, inflammation, and sometimes mortification of the parts) is by the present disposition of the air, and season of the year, favouring the production of an epidemic pleurisy, determined upon the pleura and lungs, and produces its tragical effects upon these organs. It is further observable, that the disease is aggravated by the common method of treating an essential pleurisy, and is found to be relieved by sweating and diluting methods, which is a prevailing argument to consider it in this light, as that method was always found to be the most successful in curing the original fever; of which kind I suppose this to be, and the pain in the side and breast only accidental symptoms."†

* By the stationary fever is meant the yellow fever of our cities.

† See Dr. John Bard's Essay, Med. and Phil. Register, vol. i. p. 417.

A malignant peripneumony prevailed in the neighbourhood of Burlington, Vermont, in the winter and spring of 1810, with very considerable mortality. It run its course generally in about six or eight days, ending either in death or a favourable crisis. It predominated over all other diseases, for no person became sick without having some pain in the breast, side, or shoulder; it seized very suddenly in most instances, without being preceded by any premonitory symptoms.*

In giving to the public this little essay on an epidemic disease, I have no preconceived theory to subserve, a predilection for no particular or favourite doctrine; my object has been purely the love of truth, the advancement of the healing art, and the welfare of mankind. With this belief, I shall always rejoice in recollecting the classic words of the celebrated Pliny, "et quatenus nobis denegatur diu vivere, relinquamus aliquid, quo nos vixisse testemur."†

New-York, 7 mo. 15th, 1812.

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* See an extract of a letter from Dr. Powell, in North on Spotted Fever, p. 38.

† Plin. Epis. lib. 4. epist. 7.

V.

Observations *on the Nature and Treatment of the* Malignant *or* Yellow Fever, *which prevailed in the Island of Grenada, W. I. in the years* 1793, 94, *and* 95, *in a letter to* David Hosack, M. D. *&c. from* John Stewart, M. D. *&c. &c.

New-York, Nov. 12th, 1805.

Dear Sir,

I have received your favour of this date, desiring information concerning the fever which appeared, and proved so fatal, in Grenada, in March, 1793. I feel much disposed to comply with your request, but regret that my time will not allow me to do so in a manner satisfactory to myself; at all events, I hope you will make allowance for any inaccuracy I may commit in referring to circumstances which occurred so long as twelve years ago, especially, as I am possessed of no memorandum respecting the disease, all my papers having been destroyed in the insurrection which occurred in that island in 1795.

It may be necessary to premise, that I had been engaged in an extensive practice in the quarters of St. Andrews and

* None can be ignorant of the name of Dr. Stewart, who are at all acquainted with the controversy which has so long engaged the attention of medical writers, relative to the nature and character of the yellow-fever, as it has prevailed in the United States, and in different parts of Europe. Our readers will recognise in him one who occupies a distinguished place in the list of those great men who have supported and defended the doctrine of the contagious nature and specific form of this disease. His great learning, and extensive practical knowledge, eminently qualify him to act as umpire on this subject, and stamp his opinions with an authority not to be impeached by the gross aspersions and futile reasonings of a host of ordinary writers.—Ed.

St. Patricks for nineteen years previous to the period referred to. My place of residence was on the east side of the island, and on the confines of those two parishes, about twenty-four miles from St. George, the capital, and upwards of four miles from Grenville Bay, the second harbour in the colony; the tract of country between my abode and the latter, is flat, and the shore low and swampy; it is consequently extremely unhealthy in the fall of the year. I had become, of course, well acquainted with tertian fever, under its various forms, of intermittent, remittent, and continued types. It is, however, worthy of remark, that I do not recollect an instance of an epidemic disease occurring among the white inhabitants, in any part of the island, from January to July or August, previous to the year 1793.

My first acquaintance with the fever in question was as follows: In the month of March of that year, I went on board the ship Adventure, then lying in Grenville harbour, to visit the carpenter, at that time under my charge, for a gunshot wound in his hand. While there, Captain Remington arrived from St. George's by sea; he had come round in a drogher, and had had heavy squalls, with rain, in his passage to windward. He then complained of being feverish, and seemed low spirited; he had heat of skin, his pulse full, and under one hundred, head-ache, pain in his back and limbs, and over his whole body. These symptoms I imputed to cold, caught in his passage up, and accordingly took eight ounces of blood from him, which, unexpectedly, neither exhibited the buffy coat, nor the coagulum any degree of contraction, or consequent separation of serum. He took an emetic of ipecacuanha in the evening, and a dose of glauber salts the following morning. During three days, I continued to visit him, his pulse did not exceed one hundred, nor was the heat of skin considerable; he took, occasionally, small doses of antimonial wine, with the addition of laudanum at bed-time, and made

free use of tepid drinks. At the end of that time, I was under the necessity of putting him under charge of a neighbouring practitioner, having a call to the other side of the island. On leaving him, I certainly did not entertain any idea of his being in danger; I was, however, forcibly struck with, and could not well account for, an uncommon degree of despondency of mind that was then present, and it was not possible to remove the impression, that he was to die; nor was I the least surprised, on going to Grenville some days after, to be told of his death; and, more especially, to hear of that event having been preceded by hæmorrhage from his nose, stomach, mouth, and urinary bladder. On this occasion, while in conversation with some gentlemen on the fate of this unfortunate man, I could not help noticing the malignancy of the case, and the difference in the train of symptoms from what I had ever witnessed to take place in the worst cases of our endemic fever. But a few minutes had elapsed, when a gentleman arrived from St. George's; I had no sooner mentioned Capt. R.'s death to him, and my surprise thereat, when he instantly replied, it was none to him, for Capt. R. had eat and slept on board the ship Hankey during several days that he was in town. This was the first notice I had of such a vessel being in the colony, and, therefore, anxiously requested he would explain himself. This he did, by saying, that the Hankey, Capt. Cox, had arrived some time before, after carrying a number of settlers from England to the Coast of Africa, where she had remained for some months, and that during her stay, the greater part of those unfortunate people had been carried off by fever; and concluded, by saying, that there was at that time a cursed infection lurking on board of her; that the mate of the ship Baillies had died, or was dying, and several other seamen were very ill when he left town. The melancholy scene that afterwards followed at St. George's, in '93 and '94, is well and amply described by my respecta-

ble friend, Dr. Chisholm, in his well known work on West-India Diseases.

Capt. Remington had been removed on shore the day preceding his death; but no case of fever occurred, either in the family where he died, or on board of his own ship, his cloaths and bedding having been destroyed, and every precaution taken to guard against infection, in consequence of the information above referred to.

The fever was, however, brought soon afterwards to Grenville harbour, by a ship or two that came from St. George's to load for England; and from them the disease was communicated to other vessels lying there. A few cases of this fever also occurred in the village of Grenville, but it did not spread.

An insurrection of the negroes broke out in the island early in March, 1795, and soon thereafter, I believe in May, this fever again appeared. It became frequent in the town of St. George's, in the course of the fall, and proved fatal to many of the inhabitants, in consequence of the deprivation of their usual comforts, and the fatigue they had undergone for several months before. I resided then chiefly in town, and had an opportunity of seeing a great many people labouring under the disease. As to the *character* of this fever my experience has fully satisfied me, that it was specifically distinct from every form of the indigenous tertian remittent which I had ever observed; because it appeared at a season of the year which I had always found healthy, during a period of nineteen years I had resided in the colony.

Because it did not particularly appear in those situations where bilious remittent fever usually prevailed during the unhealthy season of the year.

Because there was an evident difference in the character and type of the two diseases; there was a greater despondency of mind in this fever; the eyes were more muddy and inflamed; there was commonly a deep seated pain in the eye-

sockets; the motion of the eye-balls was attended with uneasiness; the pain in the back and limbs was greater than in bilious fever; the vomiting was not of so violent and straining a nature, nor were there such evacuations of bilious matter; the black vomit, which I consider one of the characteristics of this disease, generally occurred at an early period; the yellowness was of a dingy hue, not of the real icteric tinge accompanying cases of bilious fever; the delirium was in many instances of a peculiar nature and much resembling a state of intoxication; hæmmorrhage was more frequent, particularly by urine and from the stomach and intestines. Patients, on several occasions, made exertions, not long before death, that I never witnessed in bilious fever. I have known a patient to get up, dress himself and walk about his chamber a very short time before his death. Medical practitioners, before getting well acquainted with the deceitful nature of the disease, not unfrequently declared their patients out of danger when the fatal issue took place an hour or two after their departure.

Because I never knew this fever terminate within a few weeks in intermittent, as tertian, remittent, or bilious fever commonly does.

Because the degrees of weakness produced by this fever is greater, and the recovery of flesh and strength are more gradual and slower in this than in bilious fever.

Because I did not find the same mode of treatment consonant in both cases of fever; for the early, bold and free use of bark, which I have found very generally to answer in bilious fever, seemed to aggravate this fever, and to hasten the fatal issue. Do not consider me whimsical when I assure you, that I was very often sensible of a peculiarly bad taste in my mouth while by the bedside of my patients, and particularly if blankets were used as a covering.

That this fever was contagious, I concluded from the manner in which it broke out and spread. It first appeared in two or three vessels that had a communication with the Hankey;

and from these sources it gradually extended itself to other vessels in the harbour; but not to all, for where attention was paid to prohibit communication with infected ships, such vessels escaped. After some time it got on shore, both into town and in the garrison. There is also reason to think that it was carried from thence to the adjoining islands, as it appeared at most of those to windward within two months of its breaking out at Grenada; and some time thereafter it showed itself at Jamaica, and alternately, I believe, in September at Philadelphia.

Its contagious nature also appeared from many instances of men, in 1793, and 1794 going to St. George's on business, and being attacked a few days after their return to the country with this fever, to several of whom it proved fatal; but I must observe that I met with no instance of the disease being communicated to others, either visitors or attendants. It is indeed true, that every attention was paid to keep the chamber of the sick well aired, their linen frequently shifted; and when a fatal issue took place, every article of wearing apparel and bedding was commonly destroyed.

From knowing several instances of young men who got wounded in 1795 and 1796, having been sent for convenience and proper attendance, to town, and during their cure were attacked by this cruel disease, and on some occasions fell a sacrifice thereto.

From instances occurring of people expressing a consciousness of the time when they received the contagion while visiting acquaintances labouring under the disease.

From a thorough belief in the minds of all the medical gentlemen in Grenada who witnessed the disease, that it was so; let it be observed, however, that one of the most respectable practitioners in St. George's, and a particular acquaintance of my own, would not allow at *first*, that it was contagious. And lastly,

From a full conviction that I, as well as some other medical gentlemen, contracted the disease in our attendance on the sick.

Respecting the propagation of this fever, I am decidedly of opinion that it was occasioned by visiting infected apartments, or by the near approach to, or contact with people labouring under it. There is every probability also, that the infection was brought to Grenada by the Hankey; but what its nature was, or whether it originated on board in consequence of the number of sick crowded together while labouring under the endemic of a warm climate, and that in a sultry, moist atmosphere, or whether it proceeded from the infection of jail fever, carried from England, and which only showed itself in circumstances favourable to its propagation, are questions I do not take upon myself to answer.

That vegetable and animal matters in a state of putrefaction do produce disease, is not to be denied; but that vegetable matter only in a state of corruption is on many occasions harmless, is evident, from the very offensive heaps of cotton seed, and the pulpy covering of the coffee berry which are daily to be met with in Demerara without being considered as a cause of fever; nor should this circumstance be omitted, that when fever does prevail, it is at a season when those causes do not act powerfully.

In respect to the cure, various methods were tried by different practitioners; but I am sorry to say the proportion of deaths was great under every mode of treatment. The plan I generally pursued was to administer as early as possible a brisk purge of jalap and calomel; and after the operation of this medicine I had recourse to small doses of James' powder from time to time while the febrile action lasted; to this was occasionally added a little calomel to keep the bowels open; and the warm bath, with a large allowance of lime juice, was sometimes had recourse to, in order to aid the antimonial in deter-

mining to the surface; ultimately bark was given; blisters, opium, spirit. nit. dul. æth. were had recourse to according to the nature and the urgency of the symptoms that occurred.

When the fever first appeared, I had great reliance on a free and early use of the bark, but a little time convinced me of my mistake. Blood-letting I used in two cases only, but it afforded no abatement of the symptoms, nor did the patients bear the evacuation well; the appearance of the blood also, on which I place much confidence, did not indicate the propriety of repeating the operation.

Few men had made a more free and general use of calomel than I had done from the year 1780, in all cases of fever originating from a local cause, particularly in pulmonic and hepatic inflammation, and in dysentery. I had, however, never exceeded fifty grains in the 24 hours; nor did it occur to me that the free use of this medicine could be had recourse to with benefit in the fever until it was strongly recommended by Dr. Chisholm. I accordingly tried it; sanguine in expectation of benefit therefrom, but I am sorry to add that it did not prove an effectual remedy in my hands.

Under these circumstances you may readily suppose I felt much alarmed when this fever again appeared in 1795; and it gave me pleasure to hear of a new remedy which had been tried and proved successful in one case; this was the cold bath. I instantly had recourse to it, and the more readily on recollecting to have used it myself so long before as 1776, in a number of cases of confluent small pox, and with the most evident beneficial effect.

The consequence was, that I had reason to think many lives were saved by it. The manner of applying was by dashing two or three large pails-full of sea-water on the head and shoulders with force, laying the patient immediately after between blankets and supplying him frequently with warm tepid drinks; the effect expected, and that frequently ensued, was

a full and free perspiration. If this did not ensue the James' powder with a little calomel was occasionally repeated, as was the cold bath generally three or four times a day. I trusted to the cold bath entirely in my own case in Sept. 1795, having previously taken a dose of jalap and calomel. The good effect of the cold bath on this occasion I mentioned to Dr. Chisholm, but not having perused his second edition, I do not know whether he has noticed it. He also was made acquainted with the little benefit I derived from exhibiting the calomel, as recommended by him in my practice.

The above is the result of my knowledge and experience in the treatment of the fever as it occurred in Grenada during the years 1793, 4 and 5.

Yours, &c.

JOHN STEWART.

Dr. DAVID HOSACK.

VI.

FACTS *relative to the contagious nature of the* YELLOW FEVER *in the pure air of the country: In a letter to Dr.* WILLIAM CURRIE, *of Philadelphia, from* DAVID HOSACK, M. D. *member of the College of Physicians of Philadelphia, &c.**

New-York, May 30th, 1805.

Dear Sir,

YOU will find among some of my letters addressed to you upon the yellow fever, an imperfect memorandum of this dis-

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* The yellow fever is generally considered a non-contagious disease in the pure air of the country: yet that it is at times contagious even in such situation, the accounts published by the College of Physicians of Philadelphia, have fully proved. For further evidence, if it were necessary, we would refer to the interesting communication of Dr. R. C. Moore, contained in vol. 2d, p. 22—25, of the Register; to p. 177, of the same volume, and to the present article now first printed.—ED.

ease having been communicated by contagion at Huntington on Long-Island.

I this morning availed myself of an opportunity which presented of obtaining a more satisfactory and circumstantial statement of the facts than I have hitherto been able to procure. This information I received from Mrs. Dorothy Conklin, the present wife of Mr. Richard Conklin, who resides at West Neck, four miles distant from the town of Huntington, and in whose family the disease prevailed with almost unexampled mortality. The present Mrs. Conklin, at the time the yellow fever prevailed at West Neck, was a friend and neighbour of Mr. Conklin; attended his family in their sickness; saw them in every stage of the disease, and had the best opportunity of knowing the facts she has stated to me: these I shall relate as nearly as possible in the order and language in which she communicated them.

In the summer of 1795, when the yellow fever prevailed in New-York, Mrs. Smith, the daughter of Mr. Conklin, resided at Peck-slip, to which part of the city the disease was chiefly confined in that year. Mrs. Smith, upon being taken sick, went immediately to her father's house at West Neck, where she died three days after with the black vomit, and her skin, to use Mrs. Conklin's expression, as yellow as saffron. Her brother, who resided in New-York, was taken sick about a fortnight after; he also went to his father's house at West Neck, where he died after three or four days illness with the black vomit and a yellow skin. During his illness, Mrs. C. adds, he bled much at his nose. His mother, Mrs. Conklin, who had constantly attended upon him, and washed his clothes, was next taken sick, and died in less than a week after the death of her son. The present Mrs. C. (then Mrs. Bush,) was constantly with her, and states that she laid in a state of stupor several days; that she had the black vomit, that her skin turned yellow, and was remarkably spotted.

Doctor Sandford, who was the physician of the family, and had been very constant in his attendance upon them, was next taken sick. He felt much indisposed while Mrs. Conklin was dying; he went home, but never afterwards left his house; he died in a few days. His attending physicians unanimously pronounced it to be the yellow fever. Mrs. Conklin visited him in his illness. His bed being opened by Mrs. Sandford, Mrs. C. observed his skin to be very yellow, and was at the same time sensible of an extremely offensive smell, such as she had observed in no other sort of fever. She now was fearful of having taken the disease, especially as she had been so much exposed to it. She immediately took a dose of salts, and the day following began the use of bitters, to which remedies she ascribes her exemption from the disease.

In the summer of 1798, when the yellow fever prevailed with its greatest mortality in New-York, another daughter of Mr. Conklin, named *Polly*, fifteen or sixteen years of age, came to town upon a visit to her friends. At this time she very imprudently visited Mrs. Jones, (wife of William Jones,) who was then dying of the yellow fever. She returned home to the country; and immediately upon her return was taken sick with an acute pain in her head, back and limbs, attended with a very violent fever; a profuse purging came on, which Mrs. Conklin considers as having been very serviceable, as her fever soon after abated, and she recovered. As to the nature of the fever she states, that the physician had no doubt; he pronounced it to be unquestionably the yellow fever. The result proved an unhappy confirmation of his opinion. Her niece, the daughter of Mrs. Smith, about three years old, who was constantly with her during her illness, and laid upon the same bed, was next taken ill with fever, attended with an incessant vomiting: she died in less than a week. Another daughter of Mr. Conklin, named Patty,

about twenty years of age, who had had the particular charge of the child, had never left the cradle, and who had also attended upon her sister, was next taken sick. She began to complain before the death of the child; she was attacked with chill and fever.

Dr. Udall, who had resided in the West Indies, and had been very conversant with this disease, was called; he pronounced it to be the yellow fever, but encouraged Patty very much, telling her she would no doubt get well. As is frequently the case in this species of fever, the physician saw no cause of alarm even when the greatest danger existed. The black vomit soon succeeded, she became delirious, her skin assumed the yellow colour, and she died in less than three days from the time of her attack. A boy about 12 years of age, who had been taken into Mr. Conklin's family as a domestic, was next taken ill; he had been frequently in the room of the sick, and had been especially attentive to the youngest child, (the daughter of Mrs. Smith,) of whom he was very fond: he was attacked as the others had been with acute pain in the head and back, with vomiting, in a short time he became very yellow, and the discharges by vomiting, as black as the grounds of coffee, to use Mrs. Conklin's expression. Although he was taken sick a day or two before Patty died, he did not survive her more than two days. Mrs. Conklin being very much alarmed by the great mortality of this disease, did not visit him but once, and only when he was first taken ill. Her husband, Mr. Brush, was obliged to lay out this lad, which disagreeable office Mrs. Brush had performed for all that had already died in the family. Such was the dread excited by this disease that it became almost impossible to procure the necessary assistance for the sick; the mother of the lad was so much alarmed that she never visited her child during his illness. The boy, it was supposed, took his disease from the youngest girl whom he had caressed and fre-

quently carried about in his arms during her sickness. The next person in this distressed family who was seized was Sally Long, about 17 years old, a cousin of Mr. Conklin. She had lived in the family of Mr. Brush as a spinster. Mrs. B. now Mrs. Conklin, having by her dread of the disease been compelled to return home, Sally Long volunteered her services and attended upon Patty and the boy. In a day or two after the death of the latter she was attacked with the same symptoms as the others had been. As the disease proved so contagious, Dr. Udall now advised the family to remove from the house. Sally Long was immediately conveyed to the house of her father Capt. Long. She recovered after several days severe illness.

Mr. Conklin's eldest daughter, Mrs. Place, wife of Capt. Place of the town of Huntington, had visited her sisters at West Neck ; had been a few days at the house, and had attended some of the family last sick. She was next taken ill, and was removed to the house of Mr. Place, her father-in-law. Her symptoms were similar to those of the other sick, but not in so violent a degree. Her skin, Mrs. Conklin observes, was yellow and the irritation of her stomach considerable, but she recovered. Upon the day Patty was buried, her brother, Harry Conklin, who had attended upon her in her illness and was at her funeral, was taken sick. On his return from her funeral he began to complain, expressing to his uncle Jesse his disagreeable feelings, and his apprehensions that he had taken the fever. He remained that night at his father's house, but upon the succeeding day was removed to the house of his father-in-law Mr. Gilbert Carr, where he died in a few days. He was attended by Dr. Udall. Mrs. Conklin also adds that his skin became yellow; that he had the black vomit, but that he, to the astonishment of every person, retained his senses to the last moment, conversing upon religious subjects with the most perfect composure.

It will be proper to add that the town of Huntingdon and its neighbourhood, is remarkably healthy; its situation high, and has a northerly exposure.

If it were necessary Mrs. Conklin will at any time add her affidavit of the correctness of the foregoing statement.

I send it to you without comment, to make such use of it as you think proper.

Your's with respect,

D. HOSACK.

The following is the certificate of Dr. R. Udall, who attended the family at the time they laboured under this calamity.

New-York, Nov. 15, 1809.

Sir,

After a careful perusal of the statement made by Mrs. Conklin; of the fever as it appeared at Huntington, on Long-Island, in the years 1795 and 1798, I have no hesitation to say that the facts it contains are correctly related by Mrs. Conklin, and that she is a lady of respectability and veracity, and can give you a more correct statement of it than you can otherwise obtain. RICHARD UDALL.

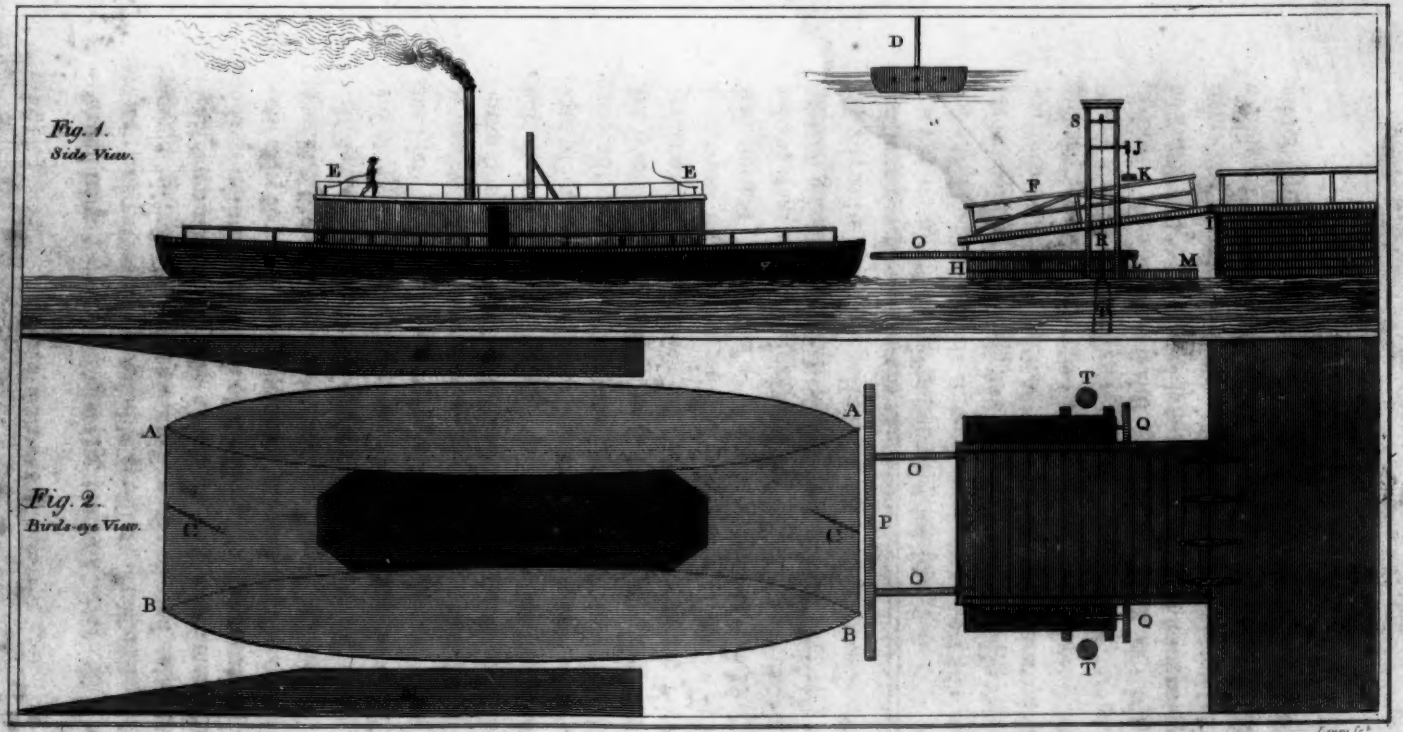
Dr. Hosack.

VII.

Account *of the* Powles Hook Steam Ferry-Boat, *in a letter to Dr.* David Hosack, *from* Robert Fulton, *Esq. Fellow of the American Philosophical Society, &c.*

(See the annexed Engraving, by Leney.)

[The perfect success of Messrs. Livingston and Fulton in their invention and establishment of steam boats for the accommodation of passengers between the cities of New-York and Albany, drew the attention of Mr. Durand, Judge



Lucy fec.

FULTONS-STEAM FERRY BOAT.

For the Med. & Phil. Register.

built for less than two millions of dollars; whereas the present establishment, when finished, consisting of two steam ferry-boats, with the wharves and floating bridges for entering the boats, will not exceed fifty thousand dollars. Such economy is a sufficient inducement to establish steam ferry-boats in a variety of places in the United States where expense will prevent the building of bridges, and we hope soon to see a similar establishment on the *East river* between New-York and Long-Island. ED.]

The following is a copy of a letter to Dr. David Hosack, from Mr. Fulton, describing the boat.

Sir,

AT your request I have sent you a bird's eye and side view of the Powles-Hook steam ferry-boat and floating bridge, by which every thing enters, or is landed from her: my reasons for her particular form and arrangement of machinery are as follows:

First. She is built of two boats each ten feet beam, eighty feet long, five feet deep in the hole; which boats are distant from each other ten feet; confined with strong transeverse beams, knees and diagonal traces, forming a deck thirty feet wide, eighty feet long. To give her more strength she is held together by four inch traces, each two inches square, which pass through her one foot above the water line and key on strong plates on the inside of each boat. Reflecting on a steam ferry-boat for Hudson's river, the waves usually running up or down, I found a great breadth of beam absolutely necessary to prevent the boat rolling in the trough of the sea; this is attained by two boats and one open space giving thirty feet beam.

Second. By placing the propelling water wheel between the boats it is guarded from injury by ice or shock, on ap-

proaching the wharf or entering the dock, which operation being performed twenty-four times in twelve hours, allows no time for fending off with boat-hooks. To give despatch and convenience it is necessary the boat should arrive at the bridge without the possibility of any injury; hence all important parts of the machinery should be carefully guarded, particularly the propelling wheels.

Third. The whole of the machinery being placed between two boats on the beams over the open space leaves ten feet wide on each side, on the deck of each boat for carriages and passengers. One side is appropriated to carriages, horses, cattle, &c. the other having neat benches and covered with an awning, is for passengers; on the latter side there is a passage and stairs to a neat cabin which is fifty feet long and five feet clear from the floor to the beams, finished with benches for passengers in rainy or bad weather. In the winter there will be a stove in this cabin, which will add much to the comfort of passengers while navigating through the ice.

Fourth. Although the two boats and space between them give thirty feet beam and proportionate stability, yet they present sharp bows to the water, and have only the resistance in water of one boat of twenty feet beam, which diminution of resistance gives speed in crossing.

Fifth. The space from *stem* to *stem*, that is, from A A, to B B, of each boat, is twenty feet wide, which gives ample room at each end for carriages or persons to enter or go out of the boat.

Sixth. Both ends being alike, and each having a rudder, she never puts about. At New-York the carriages and horses enter at one end of the boat, the horses' heads toward Jersey; on arriving, they go out at the other end without changing the line of direction; in like manner, when coming from Jersey to New-York: thus the shortest possible and quickest movement of all that is to pass, is made to save time and

secure convenience. Her rudders, which are placed as at C C, are equipollent, the iron shaft which serves as a rudder post, standing in the middle of each as at D, by which construction the pressure of the water being equal on each side of the centre, it can go either end foremost. With yokes and parallel bars, the movements of the rudders are carried to the helms at E E, the only position where the helmsman can have a full view of all round the boat, and see how to steer her into dock. It was at one time my intention to put a rudder on the bow of each boat, and work them with a connecting bar, but considering that such rudders while acting as tow would be injured by ice, or destroyed by a shock against a wharf or timbers, and knowing that the greatest current of water is exactly behind the wheel and between the two boats, I placed them as delineated, where they answer every desired purpose, and are guarded from injury. In my first sketches I had made the inside line of each boat straight, that the water might have a free passage from one end to the other, but the disadvantages of such a mode of construction would be, that the whole of the inside lines would act as leeboards, rendering it difficult to put her about, or to work her up in the tide. Had this boat been moved by wind, such a form to prevent leeway would be advantageous, but moved by steam, the less water she draws, and the easier she moves over it, in every direction, the better; her bottoms are therefore made rounding with very little dead rise. Another material error which would have arisen from straight insides, would be that each bearing being but half a boat, the two could not give more breadth of beam, or so much buoyancy as one of the present boats; and to give the thirty feet beam it would be necessary to have a vacant space between the two insides of twenty feet, which long and hollow bearing would produce weakness. Such a boat to carry the came weight would draw near twice as much water as the present steam boats, and create a re-

sistance in the water equal to the present resistance by breadth of beam.

Seventh. F represents the floating bridges, of which there is one on each side of the river. G is a coffer, twenty-four feet long, twelve wide, four deep; which gives a superficies of two hundred and eighty-eight feet, or nine tons' weight, to press it in the water one foot, or one thousand five hundred pound to press it in the water one inch. This great resistance gives stability while carriages or heavy waggons enter the boat. The bridge is thirty feet long, twenty wide, fastened by four strong hinges to the coffer at H, and to the wharf at I; thus the bridge rises and falls with the tide, and is always exactly even with the end of the boat; when low water, there is an easy descent into the boat; at half flood, the boat, bridge and wharf are on a level; at high water, there is an easy descent from the boat to the wharf. As the weight of the bridge is on one edge of the coffer at H, to prevent it sinking on that side and rising on the other, a chain is fastened to the bridge which passes over the pully J, with a heavy weight K. Such an application on each side of the bridge pulls it up in the middle, and pushes down the coffer at L; added to which, a pine log, one foot square, is bolted on each side of the coffer as at M, with two transverse logs dovetailed into them, of which the weight and leverage retain the coffer in a horizontal position.

The next and last thing to be discovered, was how to make the boat arrive at the bridge without the aid of boat-hooks, or any pushing, or pulling, or loss of time, or shock: the latter being the most material to guard against, for this purpose the dock which receives her is one hundred and eighty feet long, seventy feet wide; the bridge is fastened to the middle of the bulk head: The boat being only thirty feet wide and the dock seventy, leaves twenty feet vacant on each of her sides; in those twenty feet spaces, and on the water, there

are floating stages made of pine logs, which lie parallel to the boat for thirty feet, and then run diagonally to the extreme end of the wharves, so that the boat when coming in hits within the seventy feet, and the stages guide her direct to the bridge. The stages are indicated N N.

To prevent shock, there are two pieces of timber, each eight inches square, as at O, which move on rollers, and run out between the bridge and coffer; the two are connected by a cross bar P, and under the bridge by another cross bar Q; to this latter cross bar, and on each side of the bridge there are ropes fastened, which ropes pass under pullies that are fastened to the coffer at R, rise up and pass over pullies at S, descend and fasten to buckets at T, which buckets of oak, strongly hooped with iron, are fifteen inches diameter, six feet long, and, when full of water, will weigh about one thousand eight hundred pounds. When the fenders O are projected to the position delineated, which is about ten feet from the bridge, the buckets are down in the water, leaving their upper rim about three inches above the surface. It is the weight of the buckets which drives the fenders out to their present position. Each bucket has four holes in the bottom of an inch diameter, by which the water enters as they descend; and which lets out the water as they rise. In case the resistance should be too great for the boat to come close to the bridge, the water running out of the buckets will diminish it and let the boat arrive at the position required. To prevent a shock the whole force must be gradually diminished to annihilation; the resistance to the boat must be little in the commencement and increase until the whole power is destroyed: fortunately this contrivance produces the desired effect; when the buckets are in the water they are nearly bouyant, but the moment the boat strikes the cross bar P, and it begins to run in, the buckets come gradually out of water and grow

heavier each inch they rise, increasing resistance until the momentum is destroyed, and the boat arrives at the bridge without shock, where the passengers, carriages and horses immediately move out, and others enter. In the present state of this part of the machinery, to prevent shock, it is necessary the men should be attentive to stop the engine in time. The most perfect machinery is that which leaves as little as possible to the care of men. I have some additions to make, which will prevent the possibility of shock even in cases where men may mistake, or be careless. In a new combination of this kind it is not to be expected that every thing should work to the best advantage in a first experiment, or that every requisite should be foreseen. The boat which I am now constructing will have some important improvements, particularly in the power of the engine to overcome strong ebb tides; from which again other improvements will be made, as in all other new inventions. The present boat crosses the river, in a calm, in fourteen minutes; her average time is twenty minutes. She has had in her at one time eight four wheel carriages, twenty-nine horses, and one hundred persons, and could have taken three hundred persons more. From the success of this experiment there is the pleasing prospect that boats of this kind will facilitate the passage of many of our wide rivers and bays, and prove an important benefit to our country.

I am, Sir, respectfully,

Your most obedient,

ROBT. FULTON.

REVIEW.

ART. I. MEMOIRS *of the* CONNECTICUT *Academy of Arts and Sciences*, Vol. 1. Part 1. New Haven. O. Steele & Co. 8vo. pp. 216. 1810.

DISTINGUISHED, as the United States unquestionably are, for the number and respectability of their literary associations, still we believe they cannot with propriety boast of more than two well established institutions, devoted to general science and experimental philosophy, who regularly publish memoirs on these branches of knowledge. The institutions to which we particularly allude, are the American Philosophical Society, whose meetings are held at Philadelphia, and whose foundation was laid as early as the year 1744;* and the American Academy of Arts and Sciences, held at Boston, established in 1780. From the complexion of the volume now before us, we have no hesitation to add to this small number the Connecticut Academy, as being from its plan and objects, more than any other of our establishments, nearest allied to those we have just particularized.

The Connecticut Academy was organized in the year 1799, and the gentleman chosen to preside over its concerns is the Rev. Dr. Timothy Dwight, the learned and excellent President of Yale College. As the value of a work of the kind now before us must necessarily depend upon the character of the individual memoirs of which it is composed, we shall take some notice of them separately, in the order in which they are given. They are seventeen in number.

* See the interesting letter of Dr. Franklin to Lieutenant Governor Colden, contained in the Register, vol. 2. p. 203.

1. *A Dissertation on the Supposed Change in the Temperature of Winter: by Noah Webster, jun. Esq.*

That the winter cold is less severe at present, in some parts of Europe and Asia, than it was two thousand years ago, and that it is decreasing in some parts of America, seems to be an opinion that has generally prevailed. This opinion, as it respects Europe and Asia, has been supported by Buffon, Gibbon, Hume, the Abbe du Bos, Rees, and Pelloutier. As it respects America, it has been supported by Jefferson, Williams, Holyoke, and others.

The three gentlemen last named conceive, that within the last century, the temperature of our winters has been greatly meliorated. This was a very comfortable opinion, especially to us who live in a large city, where the price of fuel, in cold weather, is become a serious article. As the value of a cord of wood is nearly doubled within the last thirty years, we should have had a pleasure in believing that in a short time our winters will require less consumption of firing.

We observe, however, that Mr. Webster is opposed to the current opinion on this subject. He seems to think that people suffer as much at present, under the severity of winter's cold, in Asia, Europe or America, as ever they suffered at any former period. We shall consider this new hypothesis with some attention, because for the reason stated, it is not very palatable, and for a better reason, because we suspect that it is not well founded.

We admit, with Mr. Webster, that it cannot be correct to take any thing that is written in the book of Job concerning the prevalence of frost, hail, or cold, as an argument for or against the common opinion, viz. that there has been a decrease of cold in or near Palestine. For though the writer speaks of a degree of cold that does not at this day prevail in

or near that land in which Moses tended the flocks of Jethro, we have no authority for saying that Moses wrote the book of Job. On the contrary, when we consider how many years Job seems to have lived, and how many of his cotemporaries had not at that period fallen into idolatry, we should rather presume that he was cotemporary with Abraham, or lived before him.

The common opinion that respects the decrease of cold in certain countries, is founded upon the assertion of ancient poets and historians, who speak of intense cold, with ice and snow, which formerly prevailed in those countries, compared with the report of modern travellers, who assure us that no such degree of cold prevails at present. Mr. Webster attempts to invalidate this argument, first, by alleging that the poets dealt in hyperboles, or that they took extraordinary cases for common ones. He next opposes the effect of their evidence by showing what, as he conceives, must have been the real state of the climate in those several regions. This appears, as he thinks, by the tender fruits they produced. Now as it is well known, that in all countries there are some uncommon and extraordinary seasons of heat or cold, or of rain, or dry weather, we deem it very unfair to suppose that any poet or historian had fixed upon one of those seasons when he was describing the climate of the country. When Virgil, Horace, Juvenal, and Martial, speak of much snow and ice in the streets of Rome; of cutting the ice in order to bathe in the Tiber, or of the mode of catching eels under the ice in waters on which ice is not found at present, it is hardly fair to pass all this to the account of poetical license, or the account of some uncommonly cold season. On some occasions, however, Mr. Webster treats the evidence with less respect, as in the following case: Mr. Gibbon, in order to prove that the winters were very cold in Germany seventeen hundred years ago, observes, that the Rhine and the Danube used to

be covered with ice strong enough to bear loaded waggons. This allegation, indeed, is not absolutely denied by Mr. Webster; but he puts the reader in mind that Cæsar was obliged to build a bridge across the Rhine. True it is that Cæsar built a bridge with much art across the Rhine, but it does not follow that the Rhine could not have been crossed in winter upon the ice. It only follows that Cæsar, as usual, had occasion to march his army in summer rather than in winter.

It is admitted that the ancient Romans wore loose garments in Italy; they had no breeches; but we cannot, from that circumstance, infer, as Mr. Webster does, that the winters in Italy were not cold. We know that the climate in the highlands of Scotland is much colder than it is in the lowlands; but the highlanders do not to this hour wear breeches, except by compulsion.* We shall not dispute that olives, figs and pomgranates were produced three thousand years ago in Palestine, in warm vales, or near the border of the salt lake: but it does not follow that a high degree of cold did not prevail in the winter season, through the greater part of that country. It is known that the reindeer has, some ages ago, retreated from Germany; this has been stated as a proof that the cold has decreased there, but Mr. Webster will not admit that the deer retreated in search of a colder climate, when Germany became warmer. The reindeer retreated, as he alleges, in search of solitude and proper food. When he gave this reason, to account for the deer having changed his country, he should have told us also, if he could, why white bears are not found at present as formerly in Germany, or in Thrace. That quadruped, naturally black, is only white in very cold climates. When he contended that

* See a Statute of George IIId.

the climate of Germany is not meliorated, it is strange that he should not have respected the positive assertion of Tacitus, who speaks of Germany as "impatiens arborum frugiferum," not fit to produce grapes or other fruit-bearing trees. It is notorious, that the case at present is greatly altered.

It has not been alleged, as we suspect, by any historian or philosopher, that there is a general reduction of cold on the face of the whole earth in the winter season. The altitude and operations of the sun, on the several days of the year, are much the same at present as they have been time out of mind. The opinion, as we conceive, that has been adopted by numerous writers, is, that the climate of any country may be affected by cultivating the soil. That more heat is reflected by a smooth cultivated surface than by a forest. They know that Germany, for instance, is much better cultivated at present than it was in the age of Julius Cæsar, and they discover, as they think, proofs innumerable, that the winters in general are now more temperate in Germany than they had formerly been, whence they infer that the climate of a country is mended by cultivation. What improvements have been made upon the temperature of our winters within the last century, we are not prepared to state: but he must be hardy indeed, and very much of a sceptic, who will deny that the temperature of our winters is greatly altered; since we have proof positive, that north-west winds are not half so prevalent now as they were fifty years ago. But as some of our readers may not have observed this general alteration in the course of the winds, we refer them to the very valuable work of Dr. Williamson, entitled, "Observations on the Climate in different parts of America," page 181. On the whole, Mr. Webster has shown much learning and research in the course of his Dissertation; but we are sorry to observe that he attempts to invalidate a general hypothesis by particular exceptions.

II. *A Dissertation on the production of Vapour; in which it is attempted to explain some curious phenomena that attend its ascent. By Elisur Wright, Esq.*

Mr. Wright first notices the general hypotheses that have been invented by philosophers to explain the nature of evaporation; all of which he considers insufficient to show the phenomena which accompany that process. After detailing a number of circumstances which take place upon ice being converted into water, and other changes attendant upon vegetable fermentation and animal putrefaction, he comes to the conclusion, that *evaporation is a dissolution by fire.* Whether or not this definition be correct, or possess any peculiar advantages, we leave to the judgment of our philosophical readers, to whose attention we must refer the paper of Mr. Wright, for a more satisfactory account of it than we are at present able to give.

III. *An Account of the Whitten Plaster.*

This plaster, so called from the name of the discoverer, Thomas Whitten, of Kent, near New-York, in which place it was found, though not manifestly gypseous earth, is ascertained to be an excellent manure, and not inferior to the plaster of Paris in its effects upon indian corn, and in certain soils, upon clover. Though not regularly subjected to any chemical experiment, Mr. Smith, (the author of the communication,) is of opinion, from the slight attempt he made to decompose it, that it contains sulphuric acid, plumbago, and silicious earth.

IV. *Sketch of the Mineralogy of the Town of New-Haven.*

This is one of the most able and satisfactory articles in the present volume; and in every respect worthy of the acknowledged talents of the author, Professor Silliman, of Yale College. Professor S. has considered his subject under two principal divisions, which seem naturally to arise out of the diversity of surface, by which the territory belonging to the town of New-Haven is strongly marked: First, of the plain country; secondly, of the mountainous and hilly country. The mean diameter of the plain country does not exceed two and a half, or at most, three miles; and though it presents little that is interesting to the mineralogist, Professor S. from a number of circumstances is led to conclude, that its formation is *alluvial*. As to the mountainous or hilly part, which encircles the plain of New-Haven, it every where furnishes indications of a very ancient if not a very primitive country. The East Rock is composed of whin stone, trap, or basalt. The same may be said of West Rock, and Pine Rock. From West Rock, in a course westward and southward along the brows of the hills, which are only of a very moderate elevation, frequent masses of granite, whin stone, quartz, and sand stone are to be found; and within a quarter of a mile of the Derby Turnpike, a species of stone presents itself which very soon becomes the predominant stone of the country. In its structure, it is schistose, its laminæ often variously contorted, and frequently striated with laminæ of quartz, and sometimes of mica; so that in many places it may be called micaceous schistus, and from its soapy feel it may be called magnesian schistus. Professor S. further adds,

"Nothing occurs to detain us in passing over the hills which lie between the Derby turnpike, and those heights which overlook

West-Haven, about midway between the Stratford road, and the Sound. Insulated blocks of granite, whin stone, porphyry, and quartz are scattered every where along, but the magnesian schistus is predominant, and from the heights just now mentioned, to where they terminate in the flat ground, adjacent to the shore, we find nothing but immense strata of this *magnesian schistus*, rising every where to view, and discovering, whenever the road, a water channel, or a side-hill gives a view of the strata, an unvarying inclination to the west and north, forming an angle of perhaps 35° with the horizon.

In some instances this schistus is sprinkled with beautiful spangles of golden coloured mica, which are very brilliant in the sun." p. 95, 96.

v. *Number of Deaths in the Episcopal Church in New-York, in each month, for ten years, from January* 1, 1786, *to December* 31, 1795, *taken from the sexton's books, and communicated by N. Webster, Esq.*

We make the following extract from this paper:

" Of one hundred persons who die in New-York, according to this bill of mortality for ten years, there die of

Two years old and under, - - -	43
Between 2 and 5, - - -	5 1-10
5 and 10, - - -	3 6-10
10 and 20, - - -	3 1-10
20 and 30, - - -	7 1-10
30 and 40, - - -	8 5-10
40 and 50, - - -	13 3-10
50 and 60, - - -	7
60 and 70, - -	3 9-10
70 and 80, - -	2 5-10
80 and 90, - -	1 3-10

One to 211 dies between 90 and 100.
One to 1686 dies above 100."

VI. *An Account of the American Cantharis, or Meloe Americæ; By Doctor Nathaniel Dwight, of New-London.*

Some account of this species of the Meloe was given by Doctor Chapman, of Philadelphia, several years ago. Dr. Dwight's observations and experience are in confirmation of what Dr. Chapman at that time made known; and from their united labours, we cannot but believe that the black potatoe bug, as it is called, will be found a certain and advantageous application in those cases in which the Spanish fly is employed.

VII. *A Calculation of the Orbit of the Comet which lately appeared; together with some general observations on Comets. By Col. Jared Mansfield, Surveyor General of the United States.*

In this paper Col. Mansfield gives us the result of his observations and calculations respecting the comet which appeared in September, October, and November, 1807. He has not furnished us with the observations themselves, nor yet with the calculation of the orbit. He has also neglected to inform us to what meridian his time refers, unless we are to suppose it that of Cincinnati, in which place he has dated his paper.

He has, however, been very successful in this difficult research, as will appear by the following comparison of his results with those of Bowditch, Ferrer, and Burckhardt:

1. *According to Mansfield.*

Place of the ascending node,	8*s*	27°	08′
Place of the perihelion,	8	28	48
Inclination of its orbit to the ecliptic,		63	09
Perihelion distance, that of the earth from the sun, being 1,			.64480

Time of being in the perihelion, September 10th, - - - - - - 12h. 40m. P. M.

Time of its being in the ascending node, September 17th, - - - - - 3h. P. M.

Motion of the comet direct.

2. *According to Bowditch.*

Perihelion distance, - - - - 0.64962

The mean distance of the earth from the sun being denoted by unity.

Time of passing the perihelion, September 18.60766

Or Sept. 18d. 14h. 35′ 2″ mean time at Salem, corresponding to Sept. 18d. 19h. 18′ 34″, mean time at Greenwich.

Longitude of the ascending node, - 8*s* 26° 25′ 3″

Place of the perihelion counted on the orbit of the comet, - - - - 9 0 59 55

Inclination of the orbit to the ecliptic, 63 9 57

Motion direct.

3. *According to Ferrer.*

Greenwich time of passing the perihelion, Sept. - - - - 18d. 18h. 6m. 48*s*.

Longitude of the ascending node, - 8*s* 26° 42′ 13″

Place of the perihelion, - - - 9 0 51 35

Inclination of the orbit to the ecliptic 63 12 51

Perihelion distance, (earth being 1,) - .646,3667

4. *According to M. Burckhardt.*

Time at Paris of passing the perihelion, Sept. - - - - 19d. 10h. 33m. 36*s*. A. M.

Perihelion distance, (earth's distance 1.) .64879

Longitude of the perihelion, - 9*s*. 1° 19′ 25

Longitude of the ascending node, 8. 26 33 5

Inclination of its orbit, - - - 63° 5′ 15″

Motion direct.

Mr. Olbers, of Bremen, thinks that this comet revolves in a very eccentric ellipse, and has a periodic time of 1900 years.

VIII. *Of the Figure of the Earth. By Col. James Mansfield.*

In this paper the principal object of the author was to show that mathematicians had determined the true figure of the earth from the measures of certain degrees of the meridian, and to confute those who imagined that because the degrees of the meridian have been found to increase in approaching the poles, therefore the axis of the earth must be greater than its equatorial diameter.

After several remarks, which may be read with advantage, by such as wish to form a true judgment of the figure of the earth, without the necessity of laborious researches in algebra or geometry, the author proceeds to Maupertuis' problem of determining the figure of the earth from the measures of two degrees of the meridian in known latitudes.

This useful problem has been solved by several mathematicians, as Maupertuis, Jones, Martin, Maclaurin, Simpson, Emerson, and many others.

Mr. Mansfield states the problem in these words;

"*The measure of a degree, in two known latitudes of the meridian, being given, to determine from thence the figure of the earth.*"

He then commences his solution as follows:

"From physical and other principles, it is known that the earth, if not a sphere, must be a solid generated by the revolution of an ellipsis about one or other of its axes."

It has never been demonstrated that the earth *must* be a spheroid; on the contrary, the ablest mathematicians have doubted or denied its spheroidal form.

Emerson considers this subject at some length in his Geography, pages 31, 32, 33. In page 33, he says, "But if the earth be an irregular solid, no measures can ever conspire to make it regular, and what ground have we to think it regular? The internal parts of it are unknown to us. It may happen to be denser towards the poles, or it may happen to be denser towards the equator. But these two different suppositions will cause different figures. And as the internal constitution of the earth is unknown to us, the true form of it will always remain a secret, though it cannot be far from that of a spheroid."

Bossut, in his History of Mathematics, Period iv. Chap. xiii. Sec. i. discusses this question with attention, and gives the arguments on both sides. Having stated the reasonings of those who maintained that *the earth was not a solid of revolution*, he introduces what may be said in favour of the ellipsoidal form, in these terms:

"To those arguments are opposed others which destroy their effect; and, if they be not absolutely conclusive, are at least sufficient to connect assertions too affirmative into simple doubts."

La Place, in the XIIth Chapter of the 1st Book of his Exposition Systeme du Monde: "Il y a même, lieu de croire quelle n'est pas un solide de revolution."

In the same page this most admirable geometer delivers his sentiments as follows:

"La mesure de deux degrés dans le sens du méridien suffit pour déterminer les deux axes de l'ellipse generatrice, et par consequent, la figure de la terre supposée elliptique. Si cette HYPOTHESE est celle de la nature, on doit trouver à peu près le même rapport entre ces axes, en comparant, deux à deux,

les degrés de France, du nord, et de l'équateur; mais leur comparaison donne à cette égard, des différences qu'il est difficile d'attribuer aux seules erreurs des observations."

The elliptic figure of the meridian being, as it should seem, *not quite certain*, we must be content with *assuming* such a figure as the basis of the subsequent investigation. In a word, many problems involving only small portions of the surface of the earth, as in common surveying, permit us to *assume* the surface of the earth as a plane, because we perceive clearly that such errors as arise from the general curvature will not be of any importance. But in problems where large portions of the surface of the earth are considered, as in geography and navigation, the general curvature must be attended to; and in order to do this the simplest supposition possible is made, viz. that the earth's surface is spherical, and such a radius is chosen as seems to result in the most probable manner from the best known measures of meridional degrees: but if yet greater accuracy be necessary, we *assume* the simplest figure possible that nearly agrees with a sphere, so as to make some allowance for the inequality of general curvatures, that is, we *assume* the figure of the earth to be that of a spheroid, and find such a spheroid as seems to be the most probable result of the best admeasurements of meridional arcs.

Having thus made a transition from the regions of philosophy to those of pure geometry and analysis, Mr. Mansfield proceeds to investigate, algebraically, the ratio of the axes in the assumed spheroid. From an imperfect statement of the sense in which some of his algebraic characters are to be understood, he will probably perplex his less experienced readers. He says, "and put the *ratio* of C P to C E, that of p to q;" (by C P and C E, he means the semi axis and equitorial semidiameter,) but he in fact uses p and q for the *true valves* of C P and C E.

He concludes his algebraic process with leaving to the analyst his final equation, from which $\frac{p}{q}$ may be found without applying his formulæ to an example. He, however, does not take notice of the discordancy among the various measures which have been taken of arcs of the meridian on the elliptic hypothesis; yet, it is in determining the most probable ellipticity, from several measures of good authority, that the most valuable problem respecting the figure of the earth seems to consist.

IX. *Observations on the Duplication of the Cube, and the Trisection of an Angle. By Col. Jared Mansfield, Surveyor General of the United States.*

It seems that James Winthrop, Esq. has attempted *to double the cube*, or, which amounts to the same thing, has attempted to insert two mean proportionals between two given extremes. In this attempt he has failed, as might have been expected; and the object of Mr. Mansfield, in the present paper, is to point out the error of Mr. Winthrop's construction.

In this point Mr. Mansfield has completely succeeded: he shows us the precise point of the argument in which the demonstration is faulty; and, besides, proves that the proposed method of Mr. Winthrop does not accomplish the end proposed.

In this paper Mr. Mansfield observes:

"A solution, however, by the strict principles of geometry, is not so easily effected, and by no means do I apprehend that any propositions of Euclid, or of a right line and circle, are sufficient for this purpose."

Mr. Mansfield is, no doubt, correct in maintaining that the duplication of the cube cannot be effected by common geometry; that is, by the description of right lines and circles, on

a plane, or even on different planes; but most readers will be very desirous of knowing the reasons that can be given for adopting this sentiment; and we think Mr. Mansfield would have rendered his paper much more interesting, as well as useful, had he employed a part of it in showing the impracticability of the thing proposed. A satisfactory discussion of this subject would require more room than could be allotted to it in this place, otherwise we should have attempted to show the impossibility of *doubling the cube geometrically.*

Mr. Mansfield also remarks, that, "Mr. Winthrop appears to be the *only* person who has ever attempted its solution by right lines, or merely by the principles of common geometry."

On this point we shall quote the judicious mathematician Bossut. See his History of Mathematics, Part 1, Chap. 2.

Speaking of Plato, he observes, "The problem of doubling the cube could not fail of engaging his attention. Having attempted in vain to solve it by rule and compasses, he invented, for the purpose of finding the two mean proportionals, an instrument composed of two rules, one of which moved in the grooves of two arms, at right angles with the other, so as always to continue parallel with it."

And in the same chapter, he adds, "Most of the ancient geometricians were so possessed with the hope of resolving these problems by means of the rule and compasses, that they could not bring themselves to give it up. They made many fruitless attempts; and this eagerness became a kind of epidemic disease, which has been transmitted from age to age down to the present day. But it must find an end; and in fact, it was relinquished by those who kept pace with the progress of mathematics, when, in modern days, algebra began to be applied to geometry. At present the disease is incurable in those who attack these questions with the wea-

pons of the ancients; for as they are ignorant of the present state of the sciences, there are no means of curing them."

x. *A statement of the quantity of rain which falls, on different days of the Moon. By Jeremiah Day, Professor of Mathematics and Natural Philosophy in Yale College.*

The observations of Professor Day were continued for a time somewhat short of four years. They furnish the following conclusions: that the quantities of rain which fell at New-Haven during the years 1804, 5, 6, and 7, varied at different periods of the moon: that the least portion fell at the new moon, and the greatest at the quarters.

xi. *Description of an Air Pump, invented by Elisur Wright, Esq. Feb.* 1803.

The description which Mr. Wright has here given of his newly invented air pump is very concise; but without the accompanying engraving it is impossible to convey an accurate idea of it to the reader.

xii. *A brief account of a Trial at Law, in which the influence of water, raised by a mill dam, on the health of the inhabitants in the neighbourhood, was considered. By the Hon. David Daggett, Esq.*

How far the subject of the present article may be considered a branch of legal medicine, and thus lay claim to our attention, we will not undertake to say; how far it is characterized by any novel reasoning on abstract matters of law, or what new principle in jurisprudence it establishes, are questions for the discussion of other judges than ourselves. We cannot however but think, that it would have afforded a much better

and more appropriate case for the Connecticut Reports, than for the Connecticut Academy of Arts and Sciences.

XIII. *On the Decomposition of White Lead Paint.*

This is another article from the fertile pen of Noah Webster, Esq. It is well known that white paint upon exposure to the atmosphere undergoes certain changes; that the oil becomes separated from the lead, and that the latter may be rubbed off with the hand. It is equally well known that this circumstance does not occur when paint is not exposed to water. "From these facts, says Mr. W. it is probable that the oil, when exposed to water, undergoes a slow decomposition."

"Oil is proved, by chemical analysis, to be composed of carbon, or pure charcoal, and hydrogene, or the base of inflammable air, in the proportion of nearly four parts of the former, with one of the latter. Now, carbon has a very strong affinity for oxygene, one of the constituent elements of water. Is it not probable that the decomposition of the oil of paints is owing to that affinity—the carbon of the oil combining with the oxygene of water, and the hydrogene of the oil, being set free, escaping in the form of gas? If so, the art of rendering the paint durable will consist in fixing the oil, or preventing this decomposition. This is undoubtedly a great desideratum in the arts." p. 136.

XIV. *An observation on the Auroral appearance in the evening of the first day of August, 1783, at Durham. By the late Rev. Elizur Goodrich, D. D.*

Dr. Goodrich has very minutely related a number of circumstances which occurred during the appearance of this meteorological phenomenon.

xv. *An account of the Meteor which burst over Weston, in Connecticut, in December,* 1807, *and of the falling of Stone on that occasion. By Professors Silliman and Kingsley. With a chemical analysis of the Stones, by Professor Silliman.*

This very able and interesting account of Professor Silliman and Kingsley having been already widely circulated through the medium of our public journals and philosophical transactions, we shall forbear to give any analysis of it, or make any extracts. It is proper to state, that the communication is here corrected throughout and greatly enlarged since its first appearance. The chemical analysis made by Professor Silliman, bears the strongest evidence of discriminating accuracy, and will be again and again recurred to by the practical philosopher and chemist with unabated satisfaction.

xvi. *A view of the Theories which have been proposed, to explain the origin of Meteoric Stones. By Jeremiah Day, Professor, &c.*

The author of this memoir first takes particular notice of three different hypotheses which have been offered relative to the nature of meteoric stones: that they are formed from materials raised into the air in the state of exhalations or gases; that they are masses of matter thrown from volcanoes; that they descend from the moon. We have not room for the arguments with which he combats these several theories. In the opinion of the Professor, they contain insuperable difficulties. But though Professor Day, upon good grounds, has thus entered his protest against the speculations entertained by some of his predecessors, on a subject enveloped in much obscurity, he cannot exclusively lay claim to the merit of

having suggested a new theory of his own. The "Conjectures on Meteors," offered by the late President Clap, of New-Haven College, went to give currency to the idea of terrestrial comets, and this again lead to the supposition that meteoric stones are of terrestrial origin. To support this opinion is the object of Professor Day's communication. We shall make a quotation from his ingenious paper.

"There is one other hypothesis, which, though not entirely without difficulties, appears to be encumbered with fewer than any other, which has been offered to the public. Among the manuscripts of the Rev. Thomas Clap, formerly President of Yale College, was found a paper, containing "Conjectures on the nature and motion of Meteors." This was published some years after his death. It is thought, that the theory of "Terrestrial Comets," which it proposes, may be so modified, as to suit the case of atmospheric stones.

"The solar comets, it is well known, revolve round the sun, in very eccentric orbits. In one part of their revolution, they sometimes come so near as almost to strike his body. They then move off, far beyond the orbits of all the planets; and, in some instances, are gone hundreds of years, before they return. President Clap supposes, that the earth is furnished with its system of comets, as well as the sun—that their size, and the period of their revolutions, are proportioned to the comparative smallness of the primary body, about which they revolve—that, like the solar comet, they fly off, in very elliptical orbits; and, during the greatest part of their circuit, are too far distant to be visible—that, in their approach to the earth they fall within our atmosphere—that, by the friction of the air, they are heated, and highly electrified—that the electricity is discharged with a very violent report—that they then move off in their orbits, and by their great velocity, are soon carried out of our sight.

"It does not appear, that the learned author of this theory was apprized of the fact, that substances frequently fall from these bodies to the ground. But the scheme requires very little alteration, to

accommodate it to this circumstance. We have only to suppose, that at the time of the explosion, pieces are broken off from the surface of the meteor; and that these fall to the earth, while the main body moves on in its orbit.

" The hypothesis, if admitted, will account for most of the phenomena attending the fall of atmospheric stones. The *velocity* of the meteor corresponds with the motion of a terrestrial comet, passing through the atmosphere in an elliptical orbit. A body moving near the earth, with a velocity less than three hundred miles in a minute, must fall to its surface by the power of gravitation. If it move in a direction parallel to the horizon, more than four hundred and thirty miles in a minute, it will fly off in the curve of an hyperbola; and will never return, unless disturbed in its motion by some other body besides the earth. Within these two limits of eight hundred miles on the one hand, and of four hundred and thirty on the other, (some allowance being made for the resistance of the air, and the motion of the earth,) the body will revolve in an ellipsis, returning in regular periods. Now, the velocity of the meteors, which have been observed, has generally been estimated to be rather more than three hundred miles in a minute. In some instances, it is perhaps too great, to suffer the body ever to return. But, in most cases, it is calculated to be such as would be necessary, in describing the lower part of an elliptical orbit.

The *direction* of the motion also, agrees with that of a revolving body; but not at all with that of a mass of matter, accumulated in the atmosphere, and falling, by its weight, to the earth. The *dimensions* of these meteors too, are such, as to indicate that they move in orbits of their own; as they are manifestly too large to be formed in the air, by an accumulation of gases, or to be thrown from a volcano or the moon. They appear to have about the same proportion to their central body, the earth, as the little planets lately discovered between the orbits of Mars and Jupiter, have to the sun, about which they revolve.

" The theory last stated, though in the main adapted to the purposes for which it was proposed, yet, it must be acknowledged, is not entirely satisfactory, in the explanation of one or two particu-

lars: It assigns a reason for the ignition and explosion of the meteor, which is not perhaps fully warranted by any observations and experiments hitherto made. The stones, when they fall to the ground, are found to be hot. The body of the meteor itself, has the appearance of fire. It is undoubtedly in a state of ignition, at least at the surface. Whence is this powerful heat derived? President Clap supposes it is produced by the friction of the air—that the body, moving with great rapidity through the atmosphere, is both heated and electrified—and that, when it is nearest the earth, the electricity is discharged, with an explosion, as much greater than thunder, as the meteor is farther distant, than the common region of the clouds. It is well known, that *hard* substances may be electrified, and even set on fire, by rubbing them together. But farther proof is wanted, to make evident, that a body may be made red hot, by the mere friction of the air; especially of air, as greatly rarefied, as it must be in that part of the atmosphere where the meteors move.*

"There is another circumstance, which is left unexplained by this theory. In a few instances, particularly that in Sienna, the falling of stones is said to have been accompanied, or preceded, by an apparent burning of the clouds. If this is any thing more than an optical deception, it seems to indicate a collection of combustible materials in the air. This appearance of fire in the heavens has been too long before the falling of the stones, to be the *effect* of the passage of the meteor through the atmosphere.

"With the exception of these two difficulties, neither of which ought perhaps to be considered as insuperable, the theory which refers the origin of the meteoric stones to terrestial comets, appears to be embarrassed with fewer objections, than any of the others which

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* *Note.*—Since the discovery of Mr. Davy, that the earths are metallic oxids; it has been suggested, that the basis of magnesia and silex may originally exist in the meteor, in the state of *pure metal*: and that when the body comes from some distant region of the heavens, into our atmosphere, a sudden and violent combustion is produced by the very strong affinity of these substances to oxygen.

have now been mentioned. None of them, however, can claim to be considered as any thing more than theories. They are not yet supported by direct and positive proof. The subject is involved in too much obscurity, to admit of a complete elucidation at once. The inquiry has commenced, with a number of suggestions, which *may* be true; but which must be left, to be confirmed or refuted by subsequent observations. This is, not unfrequently, the course which scientific investigations must of necessity take. The first step towards an important discovery, is often an ingenious conjecture. This gives the lead to a train of inquiries, which finally succeeds in unfolding the true principles of the subject. It must be granted, that but little progress has as yet been made, in explaining the origin, nature, and use of the bodies, from which the atmospheric stones proceed. But the facts that have been collected, have awakened curiosity. The approach of these meteors, will hereafter be noticed, with uncommon interest. Observations of their motion will probably be made with as much accuracy as the opportunities, furnished by their sudden and unexpected appearance, will admit. But whether the mysteries of the subject will be unveiled, upon a farther investigation, time must determine." p. 171—174.

XVII. *Origin of Mythology, by Noah Webster, Jun. Esq.*

On this subject we have only to observe, that Mr. Webster has shown much learning and extensive reading. It is a species of learning in which he is perfectly at home, being a professed philologist. To discover the origin of the host of heathen deities that have been worshipped in different regions; to find how many names the same deity had in different countries, or how many of them were different personages; to find how many of them had been men or women, and eventually deified and worshipped, and how many had been nothing else than certain virtues or qualities personified, is confessedly a herculean task. It is a field in which a man may travel without op-

position, for in many cases he deals in pure conjecture. When we speak of conjectures, we refer to a kind of learning to which some of our readers may not have paid much attention. It is the attempt to discover the origin of names and words, or the true root from which they sprung. Thus *pugno*, in Latin, signifies to fight with any weapon, and it is obviously derived from *pugnus*, a fist; because men originally contended with their fists. But in the Ethiopian dialect, *ber* signifies silver, and *bert* signifies iron, which is also a bright metal. From these words, as we are told, the Latin words, fortitudo and virtus are derived. In this case, as the reader observes, the resemblance between the word and its root is not so conspicuous, though it contains two of the same letters. Other cases occur in which the derivative and its root have less resemblance to one another. Let us try another sample of conjectures:

Bacchus, an imaginary being. The name is from the Celtic word *bach*, drunk, with the addition of the Greek article *us*. In Irish, *bach* is drunk, *bacchaire* a drunkard, and *balcha*, the root of the Latin *poculum* a cup. Bacchus then is nothing else than intoxication personified, and in process of time, made a deity. Bochart, however, forms the name from *barchus*, the son of Cush, and supposes him to have been Nimrod. If the reader dislikes both of those origins of the name, he may find two or three more. From this, however, he may infer, that mythology has no great affinity with mathematical demonstration.

ART. II. OBSERVATIONS *on* HYDROPHOBIA, *produced by the Bite of a Mad Dog, or other Rabid Animal; with an examination of the various Theories and Methods of cure, existing at the present day, and an Inquiry into the Merit of specific Remedies. Also a Method of Treatment best adapted to the Brute creation. In a series of Letters, addressed to a Friend. By* JAMES THACHER, M. D. *Fellow of the American Academy of Arts and Sciences, and of the Massachusetts Medical Society, and honorary Member of the Georgia Medical Society.* Plymouth, (Mass.) J. Avery. 8vo. pp. 301. 1812.

THOUGH the present volume does not aspire exclusively to the character of an original work, it cannot but be considered as a very respectable and useful publication. It contains a large selection of facts on a very interesting subject, judiciously made, and arranged with considerable perspicuity: and among the facts and observations of the most distinguished writers, both European and American, which are here brought forward on the nature of hydrophobia, Dr. Thacher has interspersed many just and appropriate remarks of his own, all of which are calculated to throw light on the character of this distressing and too frequently fatal disease. Did our limits permit, we should find no difficulty in presenting our readers with several extracts from different parts of the volume, which would be perused with much satisfaction and great practical advantage. We have only room for the following extract from his observations on those remedies which are intended to counteract, or overcome the effects of hydrophobia after the disease has actually appeared:

"Among the mineral preparations, those of zinc and copper have been proposed, as well adapted to the cure of the present disease.

The cuprum ammoniacum, in doses of two grains, conjoined with opium, was given to a child of eight years of age, without effect. I should, nevertheless, repose considerable confidence in the powers of copper judiciously directed. This with calomel was the active material in the remedy of Mr. Crous, and, according to his statement on oath, his usual quantity was one scruple of verdigris, and when hydrophobia has come on, he directs one hundred and eighty *grains of the same medicine, mixed with half an ounce of calomel, for one dose.* It is not from the authority of Mr. Crous, but from the very active properties which copper is known to possess, and from its successful employment in epilepsy, chorea, and many other diseases of the nervous system, that I am solicitous to witness its effects on the constitution while labouring under the distressing symptoms from canine poison. Some embarrassment would probably be experienced on account of the precise dose, but that must be determined by the effects and other circumstances. Dr. Mease appears sanguine in his opinion that this disease may be cured by means of a *strangury*, excited by the internal exhibition of *cantharides*. The principle, he observes, of the animal economy, first unfolded by J. Hunter, of one irritation curing another, is daily and amply confirmed in practice, and its application in the present disease seems highly probable. In confirmation of this sentiment, Dr. Mease brings into view the history of a desperate case of tetanus, in which a cure was happily effected by the use of cantharides. The case is related, (Med. Repos. vol. 4. p. 337.) by Dr. S. Brown of Lexington, Kentucky, of a lady who was attacked with tetanus from a wound in her heel, and after various appropriate remedies had failed to afford relief, Dr. Brown exhibited fifteen drops of tincture of cantharides every hour, until one and a half drachm was taken, when it excited such a degree of inflammation in the stomach and bowels, and a slight strangury, as to forbid any further use of the medicine. The happiest effects, however, resulted from this bold practice: every symptom of tetanus and spasm immediately yielded to the new disease thus created, and no recurrence of them was afterwards experienced. From the striking analogy of the two diseases, we are advised by Dr. Mease to adopt a similar

practice in hydrophobia. In order to give the tincture of cantharides a faithful and decided experiment, it should be exhibited speedily, largely, and repeated often, and uncombined with any thing but the vehicle in which it is taken. Nor should any other medicine be administered to interrupt or modify its action, until the course of the experiment is completed. The most vigilant attention will be requisite to ascertain the effect, and as soon as symptoms of inflammation of the alimentary canal or the bladder become manifest, the intention is thus far accomplished, and the medicine should be discontinued. Mucilaginous and diluting drinks, with oily clysters, and a proper quantity of laudanum must now be exhibited, and these, with the warm bath, will probably soon procure the desired relief." p. 275—277.

ART. III. OBSERVATIONS *on the* CLIMATE *in different parts of* AMERICA, *compared with the Climate in corresponding Parts of the other Continent. To which are added, Remarks on the different Complexions of the Human Race; with some Account of the Aborigines of America: being an Introductory Discourse to the History of North America. By* HUGH WILLIAMSON, M. D. LL. D. *Member of the Holland Society of Sciences, of the Society of Arts and Sciences of Utrecht, of the American Philosophical Society, &c.* New-York. T. & J. Swords. 8vo. pp. 199. 1811.

THE author of this work has occupied a distinguished rank in the councils of his country. He was a member of Congress, from the state of North Carolina, under the former and the present federal compact. He represented that state in the celebrated convention which framed the present constitution of the United States. Some years ago he retired from public life, and has resided in the vicinity of this city, devot-

ing himself to the cause of science and to the welfare of his family, and attracting universal esteem and respect by the amiable simplicity of his manners, the exemplary purity of his life, and the highly cultivated state of his mind. During the momentous scenes of the revolution, and the subsequent interesting political events, in which he was a distinguished actor, it appears that he never lost sight of the interests of science, and that he availed himself of every interval of official abstraction, to cherish his attachment to literary studies. The fruits of this laudable devotion have appeared on various other occasions besides in the work of which we are now about to speak.

We are sorry to remark, that with a few honourable exceptions, the literary men of Europe have conspired to destroy the character of America. The writers who have embarked in this reprehensible undertaking, may be divided into two classes.—1st. Those who have misrepresented America without any particular reference to her European population, as a world lately risen from the ocean; as a country, in which the frigid temperature of the atmosphere seems to be impressed upon its animal productions; as a country, in which some vice of the climate, or some combination of elements, prevents the expansion of animated nature, and causes man and beast to degenerate; and as a country, for which a new and inferior race of men has been created.—And, 2dly. Those who have undertaken to describe her under the cultivation of the man of Europe; as a country whose institutions, political, rural, and literary, and whose inhabitants, considered in relation to their morals, their minds, or their manners, are greatly behind those who occupy the European world. The first class appear in the solemn garb of philosophy. The second have sprung up, like mushrooms, since the American revolution, and are principally composed of superficial travellers, who have inundated the printing presses and libraries of

Europe with their contemptible effusions. Among the leaders of the first description may be found the highly respected names of Buffon and Robertson. The second is a motley group,

> Ambubaiarum collegia, pharmacopolæ,
> Mendici, mimæ, balatrones; hoc genus omne.

If, as is insinuated, America is the last work of exhausted nature, and was called into being after she had finished her labours in the eastern hemisphere, it must be admitted that she put forth all her strength and exerted all her skill in this grand operation. America constitutes the sublime of creation. Her rivers, her mountains, her lakes, and her vegetable productions are formed on a more magnificent scale than those of the ancient world. The five great lakes; the river of the Amazons, and the mountains of the Andes, surpass all competition. Is America then deficient in her animal productions, and in her climate? We answer confidently, No; and we feel fortified in our opinion from a perusal of the able and learned volume before us.

Whatever diversity of opinion may exist with regard to Mr. Jefferson, in other respects, it must be universally admitted, that as a literary character, he is highly respectable. And he has derived no small share of his fame, from entering the list against the calumnies of Buffon, who has boldly asserted, that in the new world, "La nature vivante est beaucoup moins agissante, beaucoup moins forte," that nature is less active, less energetic here than in the old world, and this great defect is ascribed to the vices of the climate. Mr. Jefferson has successfully refuted the doctrines of Buffon, with respect to the comparative size and number of animals, and the degeneration which was imputed to animal life in the new world. Dr. Williamson has occupied the same but

more elevated and extensive ground. He has ascended to the fountain head of the calumny, and has fully vindicated, not only the animal productions, but the climate of America. The importance of this discussion must be obvious to the most superficial thinker. Who would willingly entail upon his offspring an hereditary disease, the consumption, the king's evil, or insanity? Who does not cautiously avoid a matrimonial connexion that would promise such inauspicious consequences? And what is the difference between a deleterious and debasing quality attached to the former, and one connected with the country? If the human character is degraded under the pernicious operation of the climate, and man is robbed of his faculties and depreciated in his endowments, it is a duty we owe to the interests of our posterity, and to the exaltation of our species, to retire from the place of degradation, and to seek a climate and a soil more congenial and more fostering. And as the learned writer justly observes, "Whatever our situation, whatever our connexions may be in life; whether we are patriots or parents, we cannot fail to interest ourselves greatly in the fortunes of those who may come after us. And if it should appear that the supposed vices of our soil and climate do not exist; if it should appear that America is at least equal to any other part of the world, we many conclude, without hesitation, that it must be our fault, or the fault of our descendants, if they should sink below their ancestors in virtue, or any desirable quality of body or mind."

The author commences his observations on our climate in the following manner:

"The character of the American climate has chiefly been taken from observations made in the colonies, that are now the United States; for few observations on the climate have been made, in those extensive provinces which are under the dominion of Spain or

Portugal. That we may form a better estimate of the climate, in different parts of this great continent, it will be proper for us to consider the parts that are best known, and compare the present state of the climate in those parts, with observations that were made fifty or sixty years ago. If it shall appear that the climate in the United States of America is materially altered in the memory of man, it will then be proper to consider what has been the cause of that alteration; whether that cause is capable of producing great effects, and how long it may be expected to operate. It will also be proper to inquire, what was the prevailing temperature of the climate, in different parts of the old continent, above two thousand years ago, before it had been cultivated as at present. When we have finished this review, we shall be prepared to determine, whether there be any essential frigidity in the American atmosphere." p. 2, 3.

He then proceeds to consider the prevailing winds.

"There are few places, in the habitable world, where we should expect to find such a prevalence of north-west winds, as in the United States of America, near the Atlantic Ocean. Our coast is washed by the Gulf stream; and the waters of that stream, lately heated between the tropics, are warmer by fifteen or twenty degrees than the waters through which they pass, in their progress to the north-eastward. The incumbent air, being heated by this warm water, passes off, and the colder air from the northward, occupies its place. There is a great ridge, or sundry ridges of mountains, on the opposite side of the Atlantic States, that run nearly in a north-east direction, parallel to the Gulf stream. The air upon those mountains, as upon every other mountain, is cold. The direct course from the Apalachian mountains to the Gulf stream, is nearly south-east. Here then we find a particular cause for the prevalence of westerly winds, or rather of north-westerly winds, in some parts of the United States, in addition to the general cause before mentioned. The air to the south-eastward is heated by the Gulf stream; it is cooled to the north-westward by the mountains;

and the intermediate surface, while it is covered by trees, can have little effect in warming the atmosphere. It is doubtless understood, that in every contest between cold and warm air, that which is cold, being heaviest, always prevails. As the north-west winds, considering their origin, are supposed to be cold, we should expect, during the winter, a greater degree of cold near the eastern coast of the United States, than is commonly felt in corresponding latitudes in other countries. But the character of America is not to be taken from this particular tract; neither are we to believe that the superior degree of cold, in this very tract, will be permanent. It is well known, that in the Atlantic States, the cold of our winters is greatly moderated. As the surface of the country is cleared, a greater quantity of heat is reflected; the air becomes warmer, and the north-west winds are checked in their progress. It is generally admitted, that in Massachusetts and New-Hampshire, the quantity of snow that fell, during the winter, fifty years ago, was more than double of what has fallen, in any winter, for several years past. The river Delaware, in the latitude of forty degrees, used to be frozen by the middle of November; but of late it has seldom been frozen before Christmas; and there are winters in which it is never frozen across. As the westerly winds decrease, the easterly winds prevail. They have become more frequent, and they extend to a greater distance across the country than formerly. The face of cultivated lands, in the summer season, is frequently warmer than the surface of the ocean, in the same latitude; hence it is that easterly winds are observed to increase. It is well known, that ships from Europe make their passage now in less time, by one third, than they required about fifty years ago; for the north-westerly winds, that formerly prevailed on the coast, frequently kept off the shipping for several weeks. They are now favoured by easterly winds, which have increased so much of late, that they are like to be our prevailing winds during the summer, in the Atlantic States—a circumstance that must increase the moisture of our atmosphere, and will be very acceptable to the husbandman.* I am

* It is a remarkable circumstance, that though we have near twice as much rain in the United States of America as falls, at a medium, in most parts of Eu-

aware that the cause I have stated, for the former intensity of the north-west winds, is contrary to the received opinion. It is commonly alleged, that we are indebted to the great lakes for the coldest of those winds; an opinion that is not supported by any principles of philosophy. The lakes, in general, do not freeze during the winter; hence it follows, that the water in those lakes, being temperate, would moderate the severity of cold winds, rather than increase it. We know that winds from the ocean, or from any great body of water that does not contain islands of ice, are seldom very cold. According to this observation, it is found that the north-west winds, between the great lakes and the mountains, are not so cold as they are between those mountains and the Atlantic Ocean, in the same degree of latitude. It is not alleged that a current of air never crosses the Apalachian mountains, but the few currents that pass can never be strong, considering the height of the mountains.* If the north-west winds came to us from the other side of the mountains, there is little reason why we should not have them as frequent as formerly, nor why they should be of shorter continuance. But it is known that they are much less frequent than formerly, and that their usual continuance is much shorter. One of the severest north-westers I ever felt was at sea, about the thirty-ninth degree of latitude, a few miles from the coast. It demolished every fence that was near the shore; but the severity of the

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rope, we suffer occasionally by drought. Our westerly winds are exceedingly dry; but these winds prevail in summer, and in a short time carry off the moisture, so that frequent showers are necessary to the production of good crops. When easterly winds shall prevail, there will be much less occasion for rain, because the moist atmosphere, from the surface of the ocean, will not speedily dry the soil.

* The general height of the Apalachian mountains is found to be near eleven hundred yards. In some parts they rise three quarters of a mile above the common surface of the earth, but in many places they do not exceed half a mile. I was informed by a correct observer, that near the river Holsten, in the state of Tennessee, he saw clouds from the eastward, that seemed to have crossed the mountains, then in sight. He was surprized at the circumstance, and one of the oldest settlers, who chanced to be present, assured him that he had never seen the like before. They presumed that there must be a severe storm on the coast of Carolina; and such was the case, as he afterwards discovered.

wind was not remarkable at the distance of forty miles inland. It was certainly caused by the difference of temperature between the air above the Gulf stream, and the air above the coast that was covered with snow.

"We are not to conclude from observations made in the Atlantic States, that the winter's cold in America is generally greater than the degree of cold that prevails on the other continent, in like circumstances. We have seen the reason why westerly winds should prevail, in high latitudes, and we have shown that they do thus prevail. If those winds come from mountains or high lands, they must be cold; if they come from the sea, they must be temperate. On the western coast of America, near the Pacific Ocean, the winters are temperate and short; the position of land and sea in those regions, being the reverse of the position upon the Atlantic coast. The westerly winds on that side of the continent, come from the ocean. But upon the continent of Asia, opposite to America, the winters, in the same latitude, are much more severe. The rivers freeze in China, in the latitude of Rome; for their westerly winds come from a high uncultivated tract of land. Nor is it probable that Pekin, which is nearly in the latitude of Philadelphia, will ever be relieved from the chilling effects of north-westerly winds: for the rude inhabitants of Tartary have little disposition to cultivate the soil. Captain Cook, the celebrated navigator, observed that vegetation at Nootka Sound, in the latitude of forty-nine degrees, was in great forwardness in April. Captain Magee, of Boston, who passed a winter at Nootka Sound, informed the writer, that he saw little snow in that region. The spring appeared on the coast, as he alleged, about thirty days sooner than it appears in Massachusetts. We are also told by Meares, in his voyages from China to the north-west coast of America, that "the western side of America is a mild and moderate climate;" that "the winters generally set in with hard gales from the south-east." There is seldom any frost on the coast till January, "when it is so slight as rarely to prevent the inhabitants from navigating the Sound in their canoes."

"On the western side of the Apalachian mountain, where cultivation is hardly begun, the winters are much more temperate than near the Atlantic Ocean. This difference is attested by numerous settlers; and it has been observed that paroquets winter on the river Scito, in latitude thirty-nine. But I have not heard of their wintering in any part of the Atlantic States, to the northward of thirty-six; viz. in the Great Dismal of Tyrrel county, in North-Carolina." p. 7.—15.

A comparison has been frequently made between the climate of the old world, in ancient and modern times, owing principally, to the progress and effects of cultivation; and our author has, with much reason, claimed for America this future amelioration of her climate. We have never seen the difference alluded to elucidated with more erudition and ability, than in the following extract:

"The winters must have been very cold, seventeen hundred years ago, in Italy, else Juvenal could not have mentioned the necessity of cutting the ice, on the Tiber, in order to come at the water.* Horace could not have described the streets of Rome, as full of ice and snow; nor could Virgil, with any propriety, have recommended great attention to young sheep, lest the cold should destroy them.

"In the present age, ice is not found on the Tiber. Cattle are not injured by cold in that part of Italy. Neither does the Euxine freeze, nor wine, in its vicinity, as formerly they did, when the Roman poet, in pathetic strains, lamented his banishment.† The

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* Hybernum fractâ glacie descendet in amnem.
Ter matutino Tiberi mergetur.
Juv. sat. vi. lin. 521.

"Glacies ne frigida lædat
Molle pecus."
Virg. Geo. lib. iii. l. 298.

† Ipse vides certe glacie concrescere Pontum
Ipse vides rigido stantia vino gelu.
Ovid de Ponto, lib. iv. el. 7.

northern parts of Spain, as Strabo tells us, were thinly inhabited, by reason of cold. And we are told by Livy, that, for a month together, the ground was covered with snow, four feet deep, at a town near Barcelona.* Germany was so cold, about the same epoch, that it would neither produce apples, grapes, nor other fruit.† The forests in Thrace and Panonia, as we are told by the ancients, were covered with snow through the greater part of the year; and white bears were common in Thrace as now in Siberia. There was a considerable degree of cold eighteen hundred years ago in Palestine, where they have very little winter at present, and very little cold, towards the latter part of March.‡ If we look farther back, one thousand years, we shall find that snow and ice were familiar to the inhabitants of that country.§

"I shall add but another fact, in proof, that the winter's cold is greatly moderated within the temperate latitudes. It appears from the observation of travellers, compared with ancient historians, that though the number of lions is greatly decreased in Lybia, they have increased very much within the last two thousand years, in Turkey and Persia. This increase cannot be accounted for, as I conceive, except by observing that regions, which formerly were too cold in winter to become the residence of lions, are now so much warmer as to be fitted to their constitutions." p. 18—20.

The learned writer then enters at large into an exposition of the process by which cultivation renders a country temperate and warm. This branch of the subject is treated in a manner which evinces great powers of observation. He concludes with the following pleasing remarks:

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* Triginta dies obsidio fuit per quos raro unquam nix minor quatuor pedes alta jacuit.

Liv. lib. xxi. *Bel. Pun.*

† Germania frugiferum arborum impatiens. *Tacitus.*

‡ The servants and officers stood there, who had made a fire of coals, for it was cold. John xviii. 18.

§ He giveth snow like wool; he scattereth the hoar-frost like ashes; he casteth forth his ice like morsels: who can stand before his cold? Psalms cxlvii. 16, 17.

"When a considerable part of our mountains shall be subjected to the plow, and the Atlantic states shall be fully peopled, I deem it probable that cotton will be produced in Pennsylvania, and oranges in Maryland. It is not to be expected that the American winter, above the latitude of fifty degrees, will ever become more temperate than winters in corresponding latitudes of the other continent, for they are circumstanced, in many parts, nearly alike; but the temperature of the American summer, in low latitudes, will certainly become more desirable." p. 30.

Dr. Smith, the distinguished president of Princeton College, has written a very able and erudite treatise, entitled "An Essay on the Varieties of Complexion in the Human Species,"* the object of which is, to reconcile religion and philosophy, and to demonstrate the unity of the human race. Our author has taken the same side, and we recommend to our readers an attentive perusal of both works. They will have an excellent opportunity of seeing, in a conspicuous point of view, how two men of great genius and learning will treat the same subject, without having communicated with each other. It is not consistent with our limits to enter into a detail of the author's reasoning, or of the great variety of facts which he has comprized in his work. The proposition which he lays down on this subject, and which, in our opinion, he triumphantly maintains, is the following: "all the changes that have been made in the human species; all the difference in colour, shape, and feature that has been observed between one man and another, may doubtless be produced by climate, food, and education or habits," and in the course of this inquiry he fully demonstrates that the human race does not degenerate in America.

After this, the learned writer takes the opposite ground, and contends with great ability, that if any distinction may be

* See the Review of Smith's Essay, in the Register, vol. 2. p. 70.

looked for, in the process of time between the American and the native of the old continent; if the inhabitants of either continent are to excel those of the other in strength of body or of mind; if there is any part of the globe in which the human species may be expected to arrive at the greatest perfection, the favoured place will be found in America. This hypothesis is so flattering, and is supported with such plausible, not to say, powerful arguments, that did our limits permit, we would enrich our pages by transcribing them at full length; we must, however, refer the reader to the work itself, p. 169—180. Whether it will carry conviction home to every mind, we will not undertake to determine, but we take a pride and a pleasure in saying, that the superiority of America is maintained and enforced with more ability and learning by our countryman Williamson, than are exhibited by the splendid names of Buffon, Robertson, Kaimes, and Raynal to establish its degenerating effects. And we confidently assert, that it will require more intellectual energy to destroy the splendid and towering system of the one, than it took to produce the flimsy and unjust surmises of the other.

DOMESTIC INTELLIGENCE.

University of the State of New-York. Circular Address of the College of Physicians and Surgeons.

THE Board of Trustees of the COLLEGE OF PHYSICIANS AND SURGEONS of the City of New-York, while they tender to their professional brethren their congratulations upon the successful establishment of this Institution, and the beneficial effects which have resulted from the arrangements made by the Regents of the University, at the re-organization of the College, in 1811, have great pleasure in announcing, that the several courses of instruction in the different branches of medical science will, as usual, commence, in this institution, on the first Monday of November next. The Session will be opened by an Address from the Vice President of the College, DR. BENJAMIN DE WITT.

Agreeably to the provisions made by Charter, DR. JOHN AUGUSTINE SMITH, the Professor of *Anatomy, Surgery, and Physiology*, will give a complete course of Anatomical Demonstrations, connected with Physiology, and will illustrate his Surgical lectures, by performing the various operations in the presence of his class.

The Lectures on the *Theory and Practice of Physic and Clinical Medicine*, will be delivered by DR. DAVID HOSACK, the Professor of those branches; and, for the purpose of exhibiting a full view of the numerous subjects which they embrace, he will meet his class daily, throughout the session.

The same gentleman, having been appointed Lecturer on *Midwifery* and the *Diseases of Women and Children*, will, at a separate hour, deliver a course of Lectures on those branches.

Dr. Wm. James Mac Neven, the Professor of *Chemistry*, will unfold the principles of that science, particularly in its relations to medicine and the arts; and, with the advantages of an extensive apparatus and laboratory, he will afford to the students an opportunity of becoming experimentally acquainted with the numerous operations of chemistry.

The *Institutions of Medicine* and the *Materia Medica* will be delivered by Dr. Benjamin DeWitt, recently elected the Professor of those branches.

The above series of Lectures embrace all those delivered during the Winter Session of the College, and will terminate about the first of March.

The Spring Session, which will commence on the third Monday of April next, consists of Lectures on Natural History and on Botany.

The Lectures on *Natural History* will be delivered by Dr. Mitchill, and will be illustrated by the ample and rich cabinet of mineralogy and geology attached to the college, and an extensive museum to which the students can at all times have access.

The Lectures on *Botany*, which will unfold the anatomy and functions of the vegetable body, and illustrate the principles upon which botanical science is founded, will be given by Dr. Hosack; and the State Botanic Garden, now placed under the care, and devoted to the use of the college, furnishes the most ample opportunities for the study of that most interesting branch of medical knowledge.

From the provision thus made, it will be seen, that the various courses of Lectures delivered in the college, are so arranged as to constitute a complete system of medical education. The Board of Trustees, however, think it incumbent on them to state, that since the last session it has been their unremitted endeavour, still farther to increase the means of instruction, and to render the advantages enjoyed by the

college, at least equal to those of any other similar establishment in the United States. The anatomical museum has recently been augmented by some rare and valuable preparations, and very important additions have been made to the chemical apparatus and laboratory. The cabinet of natural history has also been greatly enriched by numerous specimens, illustrative of the geology and mineralogy of our country; and liberal donations have repeatedly been made to the State Botanic Garden, from the botanical institutions of Paris, and other parts of Europe. While the Trustees and Professors, therefore, confidently promise every exertion, on their part, to render their plan of education complete and satisfactory, they indulge the fullest hope, that nothing will be wanting to fulfil the just expectations and liberal views of their patrons, the honourable the Legislature, and the Regents of the University.

It is the duty of the professors to examine all applicants for Degrees, and to report to the Regents, those whom they approve, on or before the first day of March, in every year. The diplomas are then granted, and the degrees conferred, in this city, by the President of the College, DR. SAMUEL BARD, the candidate having previously undergone the necessary examinations, and publicly defended an Inaugural Dissertation on a subject in Medicine, or some of the auxiliary branches of Science. The Dissertation or Thesis may be printed, either in the English or Latin language, at the discretion of the graduate, with the approbation of three of the Professors.

By order of the Board of Trustees,

SAMUEL BARD, M. D. President.

JOHN W. FRANCIS, M. D. Registrar.

New-York, September 8, 1812.

PRIVATE MEDICAL SCHOOL

NEW-YORK.

Plan of Study adopted in the Private Medical School, established by* DAVID HOSACK, M. D. *Professor of the Theory and Practice of Physic and Clinical Medicine, in the University of the State of New-York.

TO THOSE STUDENTS WHO HAVE NOT RECEIVED A LIBERAL EDUCATION, THE FOLLOWING WORKS ARE RECOMMENDED PREVIOUSLY TO THE COMMENCEMENT OF THEIR MEDICAL STUDIES.

RHETORIC AND BELLES LETTRES.

Murray's Grammar, (large ed.)
Blair's Lectures on Rhetoric,
Duncan's Logic,
Campbell's Philosophy of Rhetoric,
Gregory's Letters on Composition,
Kett's Elements of Human Knowledge,
Barron's Lectures on Belles Lettres and Logic,
Gerard on Genius,
Do. on Taste,
Allison on Taste.

GEOGRAPHY.

D'Anville's Ancient Geography,
Pinkerton's Modern do.
Morse's American do.

HISTORY.

Priestley's Lectures on History,
Tytler's Outlines of General History,
Anquetil's Universal History,
Miller's Retrospect of the 18th Century.

NATURAL PHILOSOPHY.

Helsham's Lectures,
Gregory's Economy of Nature,
Cavallo's Natural Philosophy,
Imison's School of Arts,
Ferguson's Astronomy.

MORAL PHILOSOPHY.

Beattie's Elements of Moral Science,
——— Essay on Truth,
Paley's Principles of Moral and Political Philosophy.

It is also recommended to the young gentlemen, unprepared by a collegiate course of study, to attend, at least, one course of lectures on Mathematics and Natural Philosophy, as delivered in Columbia College; and to devote an hour daily to the Latin, Greek, and French languages, under the direction of a private teacher.

FIRST YEAR OF MEDICAL STUDIES.

ANATOMY

Cheselden's Anatomy,
System of Anatomy from the Encyclopædia Brittannica,
Bell's Anatomy,
Fyfe's Anatomy,
Wistar's Anatomy,
Jadelot's Myology, (coloured plates,)
Bell, on the Bones, Muscles, &c. (plates,)
Bell, on the Blood Vessels, (coloured do.)
—— on the Nerves, (do.)
—— on the Brain, (do.)
Cruikshank's on the Absorbents.

PHYSIOLOGY.

Haller's Physiology,
Blumenbach's do.
Richerand's do.
Gregory's Conspectus Medicinæ, vol. 1st.

CHEMISTRY.

Lavoisier's Chemistry,
Henry's Chemistry,
Black's do.
Jacquin's do.
Murray's Elements of Chemistry.

BOTANY.

Curtis on the Classes and Orders,
Smith's Botany,
Miller's Illustrations, (coloured plates,)
Willdenow's Botany,
Barton's Elements of Botany.

MATERIA MEDICA.

Lewis' Dispensatory,
Duncan's Edinburgh Dispensatory,
Murray's System of Materia Medica.
Pearson's Synopsis of do.

PRACTICE OF PHYSIC AND SURGERY.

Bell's, B. System of Surgery,
Bell's, C. System of Dissections,
Thomas' Practice of Physic.

SECOND YEAR.

ANATOMY.

Albinus' Anatomical Plates,
Edinburgh System of Anatomy,
Anatomie de Sabatier,
Cuvier's Comparative Anatomy,
Blumenbach's do.
Baillie's Morbid Anatomy,
Clossy's Dissections of Morbid Anatomy.

PHYSIOLOGY.

Moore's Medical Sketches,
Hewson on the Blood.
Falconar and Hewson's Experiments on do.
Hunter on the Blood,
Saumarez's Physiology,
Bostock on Respiration,
Cruikshank on Perspiration.
Physiologie de Dumas,
Fox on the Natural History of the Teeth.

SURGERY.

Cooper's Surgery,
Bell's, J. Surgery, by Smith,
Boyer on the Bones,
Bell's, C. Operative Surgery,
Abernethy's Surgical Observations,
Desault's Surgery,
Pott's Surgical Works,
Crowther on White Swelling,
Ford on the Hip Joint,
Cooper on the Joints,
Sheldon on Fracture of the Patella,
Russel on Necrosis,
Fox on the Diseases of the Teeth,
Hunter on the Venereal.

CHEMISTRY AND MINERALOGY.

Murray's System of Chemistry,
Chaptal's Chemistry,
Parkinson's Chemistry,
Accum's do.
Kirwan's Mineralogy,
——— Geology,
Cronstedt's Mineralogy.
Dumeril's Zoology.

BOTANY.

Hull's Botany,
Woodville's Medical Botany, (coloured pl.)
Linnæus' Systema Vegetabilium,
——— Genera Plantarum,
Willdenow's Species Plantarum,
Jussieu's Natural Orders,
Persoon's Synopsis.

MATERIA MEDICA.

Cullen's Materia Medica,
Moore's Strictures on do.
Duncan's Therapeutics,
Gregory's Conspectus Medicinæ, vol. 2d.
Barton's Collections towards a Materia Medica.

PRACTICE OF PHYSIC.

Cullen's Nosology,
——— Practice of Physic,
Wilson on Febrile Diseases,
Home's Principia Medicinæ,
Saunders on the Liver,
Willich on Diet and Regimen.

MIDWIFERY.

Bard's Compendium,
Denman's Midwifery,
Smellie's Plates.
Hunter on the Gravid Uterus, (plates,

THIRD YEAR.

ANATOMY.

Vicq D'Azyr, on the Brain, (coloured plates.)
Scarpa Tabulæ Nervorum, (plates.)
Monroe on the Brain, Eye, and Ear,
——— on the Nervous System, (plates)
Sheldon on the Absorbents,
Morgagni on the Seat and Causes of Disease.

PRACTICE OF PHYSIC.

Fordyce on Fevers,
Huxham on Fevers,
Pringle on Diseases of the Army,
Blane's Diseases of Seamen,
Cleghorn's Diseases of Minorca,
Lind's Works,

Rush's Works,
Percival's Essays,
Fothergill's Works,
Reid on Consumption,
Whytt on Nervous Diseases,
Moseley on Tropical Diseases,
Senac on Fevers,
Heberden's Commentaries,
Duncan's Medical Cases,
Chisholm on the Malignant Fever,
Currie's Medical Reports,
Saunders on Mineral Waters,
Dickson on Gravel and Gout,
Wilson on Dyspepsia,
Young on Opium,
Crumpe, do.
Matthias on the Mercurial Disease,
Swediaur on the Venereal,
Bell on do.
Pearson on do.
M'Bride's Practice of Physic,
——— Experiments,
Trotter on the Nervous Temperament,
Warren on Diseases of the Heart,
Corvissart on do.
Willan on Diseases of the Skin, (coloured plates,)
Ferriar's Medical Histories and Reflections,
Robertson's History of the Atmosphere,
Hufeland on Long Life,
Alexander's Experiments,
Hamilton on Purgatives,
Richter's Observations,
Cogan on the Passions,
Pemberton on the Abdominal Viscera,
Sydenham's Works,
Boerhaave's Aphorisms,
Van Swieten's Commentaries,
Hoffman's Practice,
Celsus de Medicina.

SURGERY.

Bell, J. Surgery, (plates.)
Chirurgie de Pouteau,
Cooper on Hernia, (plates.)
Camper on Hernia, (plates.)
Scarpa on Aneurism,
——— on the Eye,
Saunders on the Ear, (plates.)
Ware on the Eye, Hæmorrhoids, &c.
Hey's Practical Observations on Surgery,
Jones on Hæmorrhage.

CHEMISTRY.

Thompson's System of Chemistry,
Johnson's Animal Chemistry.

MATERIA MEDICA.

Alston's Materia Medica,
Murray's Apparatus Medicaminum.

MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

Hamilton, A. Works on Midwifery,
——— J. jun. do.
Denman's Aphorisms
Clark's Midwifery,
Burn's Works on Midwifery,
Baudeloque's Midwifery,
White on Lying-in Women,
White, on the Swelling of the Lower Extremities of Lying-in Women,
Perfect's Cases of Midwifery,
Cheyne's Diseases of Children,
Underwood's do.
Heberden's do.
Sparman's do.
Cheyne's Pathology of the Larynx and Trachea.

PHYSIOLOGY AND PATHOLOGY OF THE HUMAN MIND.

Reid's Inquiry,
——— Active Powers,
——— Intellectual Powers,
Hartley on Man,
Stewart's Philosophy of the Human Mind,
——— Philosophical Essays,
Crighton on Mental Derangement,
Arnold on Insanity,
Haslam on Madness,
Pinel on Insanity.

HISTORY OF MEDICINE.

Cabanis' Revolutions in Medicine,
Friend's History of Medicine,
Le Clerc's do.
Hillary, on the Means of Improving Medical Knowledge,
Percival's Medical Ethics,
Zimmerman on Experience.

BOOKS OF REFERENCE.

Martyn's Language of Botany,
Milne's Botanical Dictionary,
Turton's Medical Glossary,
Cooper's Surgical Dictionary, by Dorsey,
Nicholson's Chemical Dictionary,
Aiken, J. & C. do

PERIODICAL WORKS, RECOMMENDED TO BE READ.

London Medical Transactions,
London Medical Observations and Inquiries.
Physical and Literary Essays of Edinburgh,
Chirurgical Transactions, by Hunter, Home, &c.
London Medical Museum,
London Medical Communications,
Memoirs of the Medical Society of London,
Medical Facts and Observations,
Duncan's Medical Commentaries,
——— Annals of Medicine,
Edinburgh Medical and Surgical Journal,
Medical and Chirurgical Review,
London Medical Review,
Annual Medical Register and Review,
Transactions of the Medical Society of London,
Memoires de L'Academie Royale de Chirurgie,
Journal de Medicine,
Bibliotheque Medicale,
Nicholson's Philosophical Journal,
Tilloch's Philosophical Magazine,
Annals of Philosophy,
Transactions of the Royal Society of Edinburgh,
Memoirs of the Manchester Society,

Transactions of the American Philosophical Society,
Memoirs of the American Academy of Arts and Sciences,
Memoirs of the Connecticut Academy of Arts and Sciences,
Transactions of the College of Physicians of Philadelphia,
New-York Medical Repository,
Coxe's Philadelphia Medical Museum,
Barton's Medical and Physical Journal,
Massachusetts Medical Communications,
New-York Philosophical Journal and Review,
Eclectic Repository,
American Medical and Philosophical Register,
Potter's Medical Lyceum,
New England Journal of Medicine and Surgery,

In the preceding list are enumerated those writings on medicine and the auxiliary branches of science, an acquaintance with which is deemed essential to constitute the basis of a medical education. And though it is not expected that any student, however laborious, can render himself familiar with them during the short period of time to which his studies are necessarily limited, yet it is to be hoped, that thus seeing a plan of study before him, he will remit no honourable exertion to its successful acquisition. The works of those distinguished writers will have taught him duly to appreciate the dignity and importance of his profession, and in the intervals of practice he will be induced to complete whatever of this outline he shall have left imperfect. The private library of Dr. Hosack, consisting of the most valuable medical writings, ancient and modern, is also constantly open to the student for the sake of reference and more satisfactory information. In addition to this source of instruction, he is also supplied with anatomical preparations and other apparatus necessary to make him acquainted with the structure and the diseases of the human frame. And for the more complete accomplishment of his plan, Dr. Hosack has associated himself with JOHN W. FRANCIS, M. D. by whose assistance he is enabled to afford to his pupils the advantages of daily lectures and examinations throughout the year.

Suitable apartments are also provided for the accommodation of the student, and such regulations adopted as will secure the benefits both of a private and a public system of instruction.

Dr. Williamson's History of North Carolina.

To all who feel an interest in the colonial history of this country, we announce with great pleasure the publication of the long expected work on North Carolina, by DR. WILLIAMSON, a writer in all respects competent to narrate the important events of her colonization, and to exhibit a faithful description of her natural history. In our next number we shall review at length this excellent performance.

Officers of the Society of Arts, of the State of New-York—for 1812.

The Hon. ROBERT R. LIVINGSTON, LL. D. President, Livingston's Manor.

Simeon Dewitt, M. A. P. S., Surveyor General, 1st Vice-President, Albany.

Hon. John Tayler, 2d Vice-President, Albany.

James Low, M. D. Recording Secretary, Albany.

David Hosack, M. D. Corresponding Secretary, for Southern District—resides in the city of New-York.

Samuel Bard, M. D. do. do. for Middle District—resides at Hyde-Park, Dutchess county.

Horatio Gates Spafford, A. M. do. do. for Eastern District—resides in Albany.

James Geddy, do. do. for Western District—resides at Onondaga.

Charles D. Cooper, M. D. Treasurer, Albany.

Stephen Van Rensselaer, Senior Counsellor.

G. W. Van Schaick, Dewitt Clinton, I. Hutton, Benjamin De Witt, M. D., John Woodworth, Timothy Clowes, A. M., E. C. Genet, P. S. Van Rensselaer—Counsellors.

Commencement in Columbia College, &c.

At the Annual Commencement of Columbia College, held on the fourth of August last, the Degree of Bachelor of Arts was granted to twenty three young gentlemen, senior students of that institution. The Degree of Master of Arts was also conferred on John Fine, the Rev. John Brady, John Cadle, Dr. John Wakefield Francis, W. F. Osgood, Peter D. Vroome, and Ravaud Kearney, Alumni of the College.

At the Annual Commencement, held at Yale College, New-Haven, in September, 1812, the degree of Doctor of Laws was conferred on BENJAMIN RUSH, M. D. Professor, &c. of the University of Pennsylvania.

At the Annual Commencement of Queen's College, New-Jersey, held in September, 1812, the degree of Doctor of Laws was conferred on the Honourable DEWITT CLINTON, Esq. Lieutenant Governor of the state of New-York, &c.; and the degree of Doctor of Divinity on the Rev. THOMAS Y. HOWE, of this city.

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Observations on the Weather of the city of New-York, for the months of July, August and September, 1812.

JULY.

As a general remark, we may state that the weather for the months of July and August, of this year, was very unlike that of the same months in the preceding summer, being characterized in a remarkable degree for its great moderation as to temperature, and uniformity in other respects. During the whole of July scarcely a day occurred in which the heat was higher than 82 degrees at 3 o'clock, P. M., if we except the

5th, when the thermometer stood at 87, at the same hour. The lowest degree of thermometrical heat was at 7 o'clock on the morning of the 1st, when the mercury was at 58. The general range of the thermometer, for each day during the month, may be stated at about 70, at 7 A. M.; at 79, at 3 P. M.; and at 75, at 7 P. M. Rain, however, fell in considerable quantities at different times, and many days were either overcast or cloudy. Wind often N. or N. E. though more frequently from the westward.

AUGUST.

There was very little difference in the heat of this month from that of July; the lowest point at which the mercury stood was 66 degrees at 7 A. M. on the 18th; the highest at 82 degrees, at 3 P. M. on the 21st. Rain fell on the 6th, 10th, 11th, 12th, 13th, and 14th. On the 17th, still greater quantities fell, accompanied with wind from the N. E. On the 19th, 20th, 21st, 22d, 25th, and 27th, we again had more rain; wind generally N. E. or southerly.

SEPTEMBER.

Though we experienced many clear and pleasant days during September, we had also many others on which the temperature of the weather was remarkable for its coldness and the quantity of rain which fell. The highest degree of heat was on the 2d, when the thermometer stood at 7 A. M. at 71; at 3 P. M. at 80; and at 7 P. M. at 72. On the 20th, the mercury stood at 7 A. M. at 50; at 3 P. M. at 62; and at 7 P. M. at 59. With but little variation, this was the temperature of the weather during the remainder of the month. Considerable quantities of rain fell on the 4th, 5th, 20th, and 24th. Wind generally westerly.

Quarterly Report of the Diseases which prevailed in the city of New-York, during the months of July, August, and September, 1812.

The catarrhal fever noticed in our last quarterly report has occasionally appeared during the past season; and we have again reason to be satisfied with the opinion we have already expressed, that it is a disease purely inflammatory, and that the practice by copious bloodletting and other evacuations, is the only means of counteracting it, and of preventing the typhoid type which has been described by many physicians as characteristic of this disease, but which only supervenes when the anti-phlogistic treatment has either been totally neglected, or inertly pursued during the first stage. We are also confirmed in the correctness of the view which has been taken of this subject, not only by the state of the weather, which has been for the most part unusually cool and favourable to the production of inflammatory complaints, but from the nature of the other diseases which have prevailed at the same time; viz. croup, sore throat, pleurisy, rheumatism, &c. which have all been met with in our practice during the last three months. But although inflammatory disorders have frequently occurred, we have had occasion to prescribe for most of the diseases of the warm season, viz. intermittent fevers, cholera morbus, cholera infantum, &c. For notwithstanding the coolness of the season in general, we have had many days in which we experienced considerable degrees of heat. Intermitting fevers have been unusually prevalent not only in the city but in the neighbouring country, and in many instances have exhibited a tendency to the continued form, and frequently an inflammatory character, which has required the lancet to subdue the first degree of violence with which their invasion was attended.

Among other complaints which have been met with, is a case of *phlegmasia dolens*, or milk leg. This occurred about two weeks after parturition, and several days after the lochial evacuation had totally ceased: which discharge, therefore, could have had no agency in the production of the disease, as has been supposed by Dr. Denman and others. It, however, yielded in a few days to fomentations, and the use of calomel and squills, as recommended by Dr. Bard.* We have also seen a fatal case of croup occurring in an infant four months old. It commenced exclusively in irritation of the trachea, but the practitioner first called, having neglected the use of the lancet and vomiting, it soon extended to the lungs, exhibiting all the symptoms of pneumonic inflammation, and a total disappearance of the peculiarities of croup. We notice this fact as an evidence that croup is not confined to the trachea, but extends to the lungs and to the whole system; and that where blood-letting, emetics, &c. have been neglected, or have failed in the first stage, there is little to hope for from tracheotomy, as has been advised by some writers on this subject. We also avail ourselves of this occasion to remind physicians of the truth, that venesection is no less necessary in the treatment of this and other inflammatory diseases, in early infancy, than in the adult state.

We have also remarked, that eruptive diseases have been more than usually prevalent and obstinate during the past season; especially pemphigus, impetigo, herpes, and others of the orders *bullæ*, *pustulæ*, and *vesiculæ*, of Dr. Willan. They have, however, yielded to the alterative remedies which we have been in the habit of employing, not only in syphilis, but in inveterate cutaneous diseases in general, which either

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* Compendium of Midwifery.

proceed from, or may be connected with, a taint of the whole system.

The alteratives, to which we refer, are the corrosive sublimate either in the form of pill or solution,* and the decoction of the woods, aided by a vegetable diet, the warm bath, and an ointment, consisting of equal parts of the sulphur and tar ointment, applied upon going to bed, to the eruptions themselves. The writer takes this occasion to observe, that for twenty years past, with the exception of the ointment last mentioned, he has employed the same treatment with success for the cure of syphilis, not only when this disease may have been recently contracted, but in the most malignant form which it assumes when it has been neglected or badly treated. He here also enters his protest against the salivating system by friction, with *mercurial ointment*, and the use of *calomel*, so commonly had recourse to by the physicians of this city. It is true, that these forms of exhibiting mercury very soon affect the gums, but it is no less true, that when mercury exerts its influence upon the salivary glands, in proportion as this influence is manifested, it ceases to operate upon the other excretions of the system, and consequently is less active in eliminating from the body the poison of the disease. But the reader will see the opinion here intimated more fully expressed and illustrated in the Inaugural Dissertation on the Abuse of Mercury, lately published by a graduate of the College of Physicians and Surgeons, Dr. John W. Francis, which dissertation, both on account of the facts which it contains, and the language in which they are

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* In the eruptive complaints of children the writer prefers the solution, as less irritating to the bowels: his prescription is as follows: two grains of the corrosive sublimate to an ounce of brandy; from six to ten drops, according to the age of the child, to be taken three times a day in sweetened water.

communicated, is equally deserving the attention of the pupil and the practitioner of medicine.

Before we take leave of this subject, we deem it our duty to give another caution, particularly to the young physician, not to be too precipitate in pronouncing ulcers of the throat and eruptions of the surface, to be the effects of the long continued use of mercury; and before he decides whether the disease is ascribable to the abuse of that metal, or to the unextinguished syphilic poison, carefully to inquire what quantity of mercury has been taken, in what form, how long it has been continued, and what has been its operation. The writer is led to this caution by a case which lately fell under his care. The patient had been prescribed for by a very eminent physician, who directed calomel internally and the mercurial ointment externally. In two or three days after the use of the medicine, salivation was produced; the mercury was accordingly discontinued; the salivation ceasing, mercury was again resorted to, and salivation as before, the consequence of two or three days use of it. He was pronounced cured. In about three months ulcers of the throat appeared, attended with the eruptions and blotches characteristic of syphilis. His physician persisted in the first opinion he had expressed, that the original disease was cured, and concluded that the symptoms which had supervened were merely the consequences of mercury. A common gargle was prescribed; but when he fell under the writer's care, notwithstanding the diligent use of his gargle, he had nearly lost the uvula and a portion of the velum pendulum palati. By the use of a saturated solution of blue vitriol, applied to the ulcers three times a day, the corrosive sublimate pill night and morning, and a warm bath three times a week, together with a vegetable diet, and abstinence from wine and other excitants, he was soon restored to health. We are led to the notice of this interesting sub-

ject from a perusal of the valuable writings of Matthias and Abernethy, on the Mercurial Disease. The observations of these authors are doubtless calculated to do much good, but we cannot suppress the fear, that in the hands of the inexperienced, they may also lead to error.

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Rush's Inquiry into the Diseases of the Mind.

PROFESSOR RUSH, of the University of Pennsylvania, whose attention for a considerable time past, has been particularly devoted to the Physiology and Pathology of the Human Mind, intends shortly to put to press a volume bearing the above title. The work will be comprised in about four hundred pages 8vo. and will embrace not only all the different forms of madness, but the physical theory of the disease of the passions, and their respective remedies.

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New-York City Library.

We are gratified to learn, that the Trustees of the New-York City Library have lately committed to the press a Catalogue of the extensive and valuable collection of Books contained in that institution.

RECENT AMERICAN PUBLICATIONS.

American Ornithology, or the Natural History of the Birds of the United States. Illustrated with plates, engraved and coloured from original drawings taken from nature. By Alexander Wilson. Vol. 6th, imperial 4to. Philadelphia. Bradford & Inskeep.

The History of North Carolina. By Hugh Williamson, M. D. LL. D. &c. &c. 2 vols. 8vo. Philadelphia. Dobson.

Discourse delivered before the New-York Historical Society, at the Anniversary Meeting, held on the 6th of December, 1811. By the Honourable Dewitt Clinton, Esq. one of the Vice-Presidents of the Society, 8vo. New-York. Eastburn.

A Course of Mathematics, for the Use of Academies, as well as private Tuition. By Charles Hutton, LL. D. F. R. S. Revised and Corrected by Robert Adrain, A. M. Professor of Mathematics in Queen's College, N. J. 2 vols. 8vo. New-York. For the Booksellers.

The New England Journal of Medicine and Surgery, and the Collateral Branches of Science. Conducted by a number of Physicians. No. III. for July, 1812. Boston. Wait & Co.

Sketches, Historical and Descriptive, of Louisiana. By Major Amos Stoddard, Member of the United States Military Philosophical Society, and of the New-York Historical Society. 8vo.

An Account of the New-York Hospital. 8vo. New-York. Collins & Co.

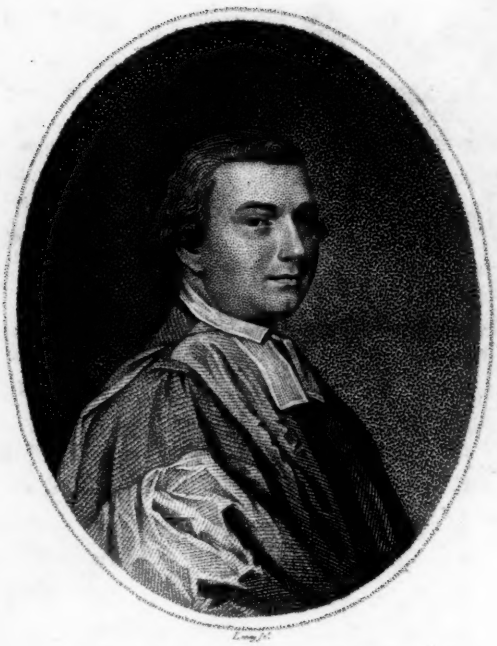
Map, and Historical and Biographical Chart of the United States. By David Ramsey, M. D. &c. Charleston.

A Chronological Table of the Principal Events which have taken place in the English Colonies, now United States, from 1607 till 1810. Explanatory of and Supplementary to the above. By D. Ramsey, M. D. &c. Charleston. Hoffs.

TO READERS AND CORRESPONDENTS.

Dr. Stearns' Essay on Croup; the paper on Cold, and other communications from our friends are unavoidably postponed until our next number.

⁂ Communications for the American Medical and Philosophical Register, are requested to be addressed to Dr. David Hosack, New-York.



MYLES COOPER D.D. L.L.D.

Second President of Columbia College.

For the Med. and Phil. Register.